

**KENTUCKY CABINET FOR HEALTH AND  
FAMILY SERVICES DEPARTMENT FOR  
MEDICAID SERVICES**

# Kentucky State Medicaid Health Information Technology Plan

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v. 1.1



# Kentucky State Medicaid Health Information Technology Plan

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## REVISION HISTORY

Version Number	Date	Reviewer	Comments
1.0	03/17/2015	CMS	Initial Draft
1.1	05/06/2015	CMS	Revision

## 1.0 EXECUTIVE SUMMARY

The goal of the Commonwealth of Kentucky's Cabinet for Health and Family Services (CHFS) and Department for Medicaid Services (DMS) is healthier Kentuckians. The means to achieving this in Medicaid are challenging but achievable: efficient and effective services, programs, and policies reflecting strategic and tactical thinking, and collaboration between all stakeholders in health care across Kentucky.

This State Medicaid Health Information Technology Plan (SMHP) outlines the specific measures underway in the Kentucky Medicaid program ("As-Is") in addition to those envisioned ("To-Be") by state health leaders as necessary for meeting the health care needs of Kentuckians over the next five years.

Each measure reflects both a vision and specific goals to positively affect the health, safety and wellbeing of Kentuckians. These include:

- Maximized efficiency and quality in the delivery of health services;
- A covered population embracing personal stewardship or ownership of individual healthcare;
- Cutting-edge Information Technology (IT) to streamline services with seamless data streams and data management conforming to an enterprise model;
- Accountable and incentivized Managed Care Organizations (MCO);
- A growing body of Medicaid providers fully oriented in compliance standards;
- Funding expended on behalf of services for the covered population that reflects vigilant accountability and stewardship;
- Cooperation and collaboration with sister agencies within Kentucky and across the nation.

These goals and the vision at which they are aimed create the "Roadmap" contained in this document. Also providing direction into creation of this Roadmap is a Medicaid Information Technology Architecture (MITA) 3.0 State Self-Assessment (SS-A) completed in December 2014. The SS-A examined and will affect the business, information, and technical architectures of DMS services and programs along with the Seven Standards and Conditions for enhanced federal funding published by CMS. In particular, the SS-A brings analysis of major programmatic changes within DMS—the shift from Fee-For-Service (FFS) to Managed Care and the Kentucky Office of Health Benefit Exchange and Health Information Exchange (KOHBEHIE)—into examination of both the As-Is and To-Be landscape for the Commonwealth, CHFS and DMS.

Addendums documenting the Kentucky State Level Repository (SLR) 2013 system modifications for Meaningful Use (MU) Stages 1 & 2 and the Certified Electronic Health Record Technology Flex Rule have been submitted to CMS. The Commonwealth maintains these appendices,

**Appendix A: “KY State Level Repository Screen Shots” and Appendix B: “SMHP Certified Electronic Health Record Technology (CEHRT)”** and they are available for review upon request.

## 2.0 KENTUCKY’S “AS-IS” Health Information Technology (HIT) LANDSCAPE

### 2.1 EHR Adoption Information

#### Environmental Scan

The *University of Kentucky, College of Public Health* conducted an Environmental Scan of healthcare providers in the Commonwealth and generated a report titled *Health Information Technology Adoption by Kentucky Health Care Providers 2012*. The objectives of this scan were to identify the following:

- Which providers used Electronic Health Records (EHR) or Health Information Technology (HIT);
- What technology was used;
- What was the purpose of the technology—electronic billing, medical records, communications with other providers and/or patients;
- Perceived benefits;
- Barriers to adoption.

Of particular importance was the timing of the 2012 survey. In the American Recovery and Reinvestment Act (ARRA), Congress enacted the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009. This legislation provided funding for EHR incentive funds, and essentially became the driving force for HIT adoption. In addition, HITECH included grant funds for establishment of Regional Extension Centers (RECs) like the University of Kentucky Regional Extension Center (KY REC) serving specific geographic areas. In sum, the 2012 scan provides a critical assessment of pre- and post-HITECH EHR adoption in Kentucky.

Currently, the EHR incentive program, the Kentucky Health Information Exchange (KHIE), and the KY REC form a triumvirate at the core of HIT adoption in Kentucky. Pre—and post—HITECH data—specifically, a comparison of a 2008 Environmental Scan against the 2012 counterpart—represent the best barometer of HIT adoption and movement from “As-Is” to a “To-Be” healthcare technology landscape in the Commonwealth.

#### Environmental Scan Process and Participants

The 2012 Environmental Scan included responses to print surveys by 1,433 physicians representing 28.7% of doctors who responded and 522 physicians in the Kentucky Medical Group Management Association and Kentucky Primary Care Association (KPCA) who responded to electronic surveys. The KPCA also notified its members about the incentive program and requested survey participation.



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## Survey Questions

The scan directed to physicians first assessed EHR/HIT status by practice description—solo primary care, solo specialty care, primary care group or partnership, single specialty group or partnership, multi-specialty group or partnership or other. The scan also revealed the following information:

- The percentage of survey respondents with either fully or partially implemented EHR or no EHR;
- The length of time using an EHR;
- EHR certification for Meaningful Use;
- Barriers to using HIT for physicians;
- Methods used by practices in generating medication prescriptions;
- Benefits expected and experienced by users of EHR;
- How HIT is used within a practice;
- Percentage of respondents whose primary hospital has an EHR;
- Percentage of respondents using a secure patient portal for patient communication.

The scan also sought input into REC services. Specifically, with the two RECs serving the Commonwealth—the KY REC and Tri-State REC—the scan assessed the most and least used services of the RECs, the usefulness providers perceived of the RECs with HIT adoption, satisfaction with RECs, percentage of providers who have applied for/received financial incentives associated with EHR certification, and the importance of incentives in adopting health information technology.

Similarly the scan assessed the status of KHIE and both perception of and connection with this agency as part of HIT and attestation for EHR incentive funds. It determined the percentage of practices connected to KHIE and if not, whether there were plans to connect, barriers to connecting to KHIE, and connection to a local regional Health Information Exchange (HIE), a vendor HIE or a hospital information system.

The survey of other providers—home health agencies, long term care facilities, community mental health centers, optometrists and hospitals—collected data on the specific purposes to which HIT was applied, the type of internet connection, perceived benefits, barriers to beginning or expanding HIT, interest in participating in KHIE, and connectivity to a primary hospital with an EHR.

## Survey Analysis

Below are some of the general findings related to EHR adoption targeted in the scan segmented between physicians and other healthcare providers:

### Physicians:

Practice type: EHR status by practice description showed that the largest category of physicians with a fully implemented EHR was multi-specialty group physician groups or partnerships

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(77.1%). Solo specialty-care practices were the lowest category of practices in percentage using fully implemented EHR (28.9%). Overall, with all categories of physician practices grouped, (61%) of respondents reported a fully implemented EHR, (21%) a partially implemented EHR, and (18%) with no EHR.

Interestingly (and peculiar to Kentucky), more rural practices had fully or partially implemented EHR versus rural practices with no EHR. By contrast, in urban areas of the Commonwealth, more solo practices had no EHR compared to practices with partially or fully implemented EHR.

Technology Usage: Most used functions in EHR by physicians were patient visit notes (87.6% of physicians), electronic medication lists for individual patients (87%), electronic problem lists (87.3%), and lab results (70.4%).

HIT Benefits: Increased access to patient data (78.5%) led benefits experiences of HIT adoption followed by “increased ability to complete records from remote location” (72.2%) and increased accessibility of data regardless of setting or provider—in essence, interoperability (60.9%).

Benefits *not* experienced but expected by physicians were increased revenue (only 16.1% of respondents’ experienced increased revenue) and reduced administrative costs (20.2%).

HIT Adoption Barriers: Not surprisingly, costs in general were the major barrier to HIT adoption. Startup costs, with (50.7%) of physicians responding, were the top barrier followed by training and productivity costs (41.2%).

KY REC Usage: Most respondents (61.8%) reported assistance with signups for incentive payments by REC as the most useful assistance followed by “substantial movement” towards Meaningful Use by (46.5%) of respondents.

KHIE Usage: The Environmental Scan was conducted in 2012 when KHIE was in initial stages of design, development, and implementation. The scan recorded only (5%) of respondents connected to KHIE but (44.8%) of respondents indicated they were “planning to” connect.

HIT Adoption 2008 to 2012: In 2008, EHR users represented (35%) of physicians surveyed. In 2012, EHR users represented (82%) of the physicians surveyed. Within this (82%) of physicians, (61%) had fully implemented an EHR and (21%) had a partially implemented EHR.

EHR Incentive Funding: The first incentive payment made to any provider in the nation was made in the Commonwealth in 2011. As of December 2014, \$176,384,677 in EHR incentive payments has been made to providers in the Commonwealth.

## **Other Providers:**

Long Term Care: (26%) had a fully implemented EHR, (44%) had a partially implemented system and (30%) had no EHR. Initial cost, as might be expected, was rated as a major barrier. This was surpassed by “interoperability of hardware and safety with the current system” as a major or minor barrier with 73% of respondents. The overwhelming percentage of use for EHR (96%) was for Admissions and Census followed by HIT in patient accounts (74%).

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Home Health: (78%) had a fully or partially implemented EHR. The primary use among (57%) responding was scheduling. With regard to connectivity, (71%) of respondents had a primary hospital with EHR but only (25%) were connected electronically to that hospital.

Community Mental Health Centers: (100%) of respondents *without* EHR indicated plans to implement it within 12 months from the time they responded to the scan. Of particular sensitivity to this type of provider are privacy and security concerns. Sixty-seven (67%) of respondents indicated these concerns are *not* a barrier to adopting HIT.

Optometrists: (48%) of prescriptions generated by respondents were generated electronically in 2012. By comparison, 5% used a computerized system in 2008. In 2012, 52% of practices had utilized EHR for one year or longer while only (38%) of survey respondents had components of an EHR in 2008.

Hospitals: EHR had been adopted by (94%) of respondents in the scan. The division between full and partial implementation was equal (46.9% partial, 46.9% full). The largest barrier to HIT adoption with (83%) of respondents was acceptance of technology by clinical staff. Secure patient portals—a priority for federal and state incentive programs—were utilized by only (9%) of respondents in 2012.

## Kentucky Plan for Updating Environmental Scan

To further support the State Medicaid Health Information Technology Plan (SMHP), the Commonwealth proposes to conduct a new Environmental Scan during 2015 to update information from the two previous assessments.

The timeline below details the Kentucky plan for conducting the 2015 Environmental Scan.

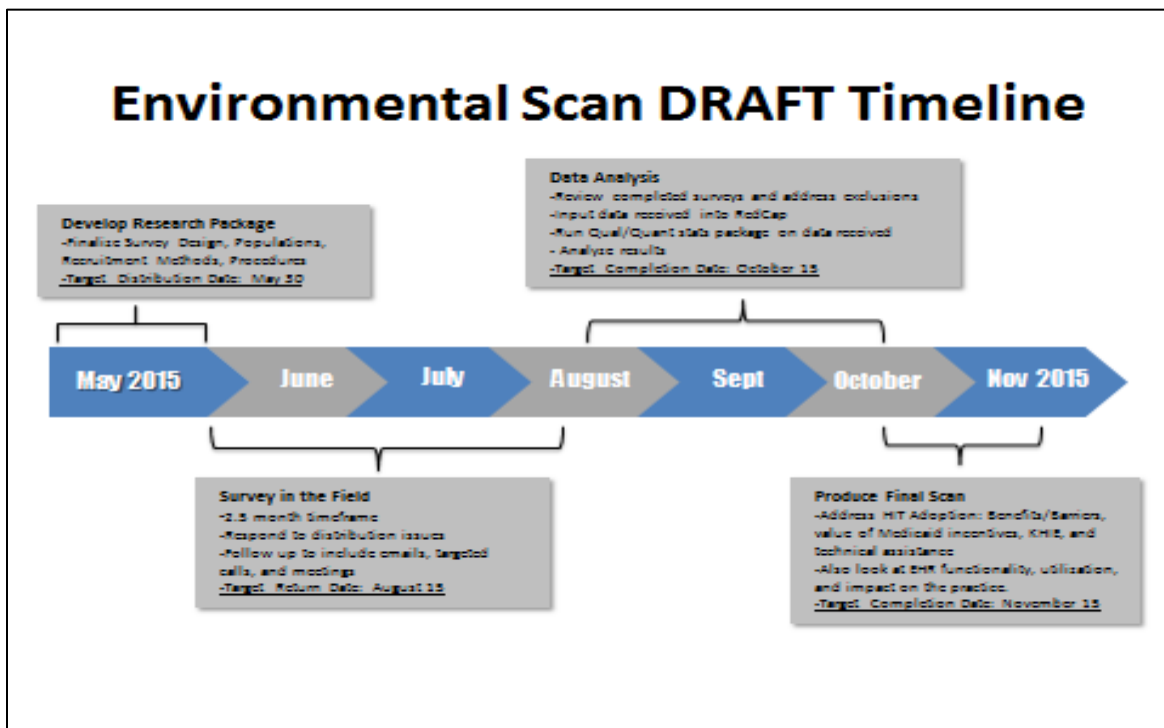


Figure 1: Environmental Scan Timeline

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The UK REC will conduct the 2015 scan, analyze the data after collection and present the results to the Commonwealth. The proposed objectives for the 2015 Environmental Scan include:

- which providers across Kentucky use health information technology (HIT);
- ratio of Medicaid vs. non-Medicaid providers;
- what technology is used;
- for what purpose the technology is used, i.e. electronic billing, electronic, medical records, communication with other providers and/or communication with patients;
- perceived and actualized benefits of HIT;
- barriers to HIT adoption;
- importance of incentive payments to HIT adoption;
- use and satisfaction with KHIE services;
- changes in HIT adoption between 2008, 2012, and 2015.

Both the 2008 and 2012 environmental scans included multiple healthcare provider groups. The 2015 Environmental Scan will include the following provider groups:

- hospitals
- physicians
- long term care facilities
- home health agencies
- optometrists
- community mental health centers
- public health departments
- Kentucky Primary Care Association, and the
- Kentucky Medical Group Management Association

Previous scans included these provider groups, so 2015 information will update and validate existing information.

Electronic surveys will be used for all healthcare providers except physicians. UK REC has strong relationships with the professional associations for these providers, and has collaborated previously with the associations in the distribution of focused surveys. For example, surveys addressing each specific type of healthcare provider allow for the inclusion of questions specific to a provider group and further support the interest of professional associations to encourage survey completion by their members. Working with the professional associations also allows for additional reminder emails to be sent to providers encouraging completion of the survey.

A sample of licensed physicians will receive a mailed survey with a postage-paid return envelope. A listing of physicians licensed and practicing in Kentucky will be obtained from the

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Kentucky Board of Medical Licensure. From that listing, a sample of community physicians will be obtained.

Additional information will also supplement physician survey results. For example, the UK REC has comprehensive information on more than 1,500 physicians/providers who have received REC services.

Following approximately 2.5 months in the field, the data will be analyzed for each provider group. Comparisons and progress from previous surveys will be noted. The final environmental scan will be compiled and shared with Kentucky DMS in early November 2015.

## 2.2 Broadband Internet Access

Access to affordable high-speed internet services remains an obstacle to many rural areas of Kentucky. The Commonwealth established the Office of Broadband Services to assist in the development and implementation of strategies to expand broadband services to all areas of the Commonwealth. This includes public grants as well as private/public partnerships. One initiative under way is a partnership between the Commonwealth and the Center for Rural Development in Somerset, Kentucky. This project entails the deployment of 3000+ miles of dark fiber to all areas of the Commonwealth providing low cost "middle mile" and backbone services. Proceeds from both public and private/commercial sales of this bandwidth will be used to reduce operational and maintenance costs and allow expansion of customer point services at an affordable rate.

### Mapping

With regard to grants mentioned above, in early 2012, the Commonwealth Office of Technology was awarded ARRA funding through the State Broadband Data and Development Grant Program to conduct statewide data collection and mapping.

The process of evaluating the current accessibility of high-speed Internet access in the Commonwealth spans three phases: 1) an analysis of existing broadband services, 2) verification of the collected data, and 3) the reporting of the results. Specifically, the statewide assessment includes data on the availability, speed, location, and technology type of broadband services from public and private providers.

The Kentucky broadband mapping program is a multi-year, multi-agency effort to map areas in the Commonwealth served by approximately 100 broadband providers. The early results have been integrated into a national broadband availability map.

The broadband availability map provides information related to the concentration and locations for various broadband categories including DSL, Cable, Fiber, Fixed Wireless, and Mobile Wireless.

### Coverage Areas

The geographic map of Kentucky in Figure 2 does not include color shading for the various categories of broadband. This illustration is provided to show a contrast to the various illustrations of broadband availability in the sections that follow.

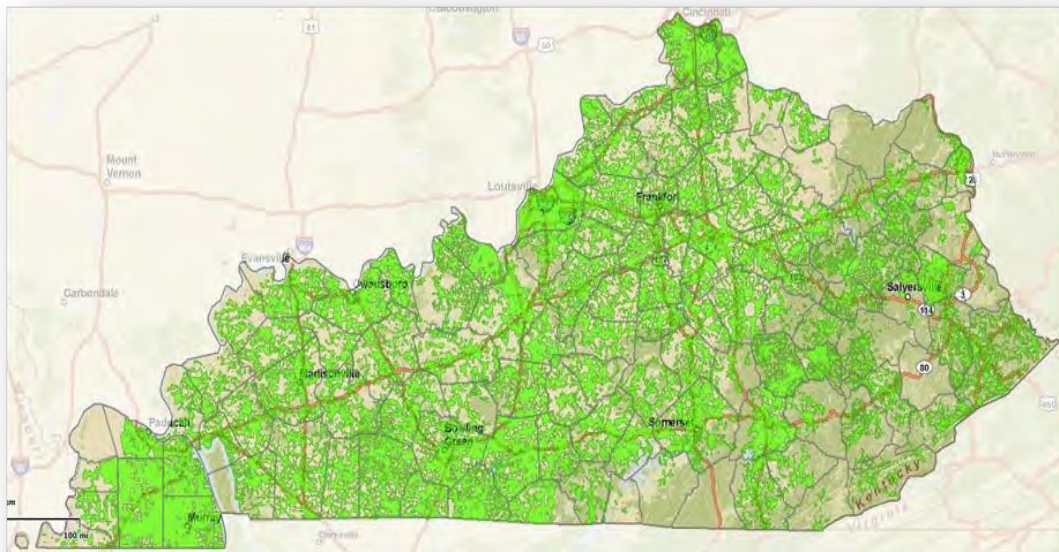


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**Figure 2: Geographic Map of Kentucky**

The **DSL** broadband category has the highest availability and is provided across the Commonwealth. Consumer DSL service typically ranges from 256KB/sec to 20MB/sec. The availability of DSL in Kentucky is illustrated by the green shaded areas in Figure 3.



**Figure 3: Availability of DSL in Kentucky**

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The **Mobile Wireless** broadband category has the second highest availability in Kentucky. Mobile wireless service typically ranges from 5.5MB/sec to 20MB/sec. The availability of Mobile Wireless is illustrated by the yellow shaded areas in Figure 4.

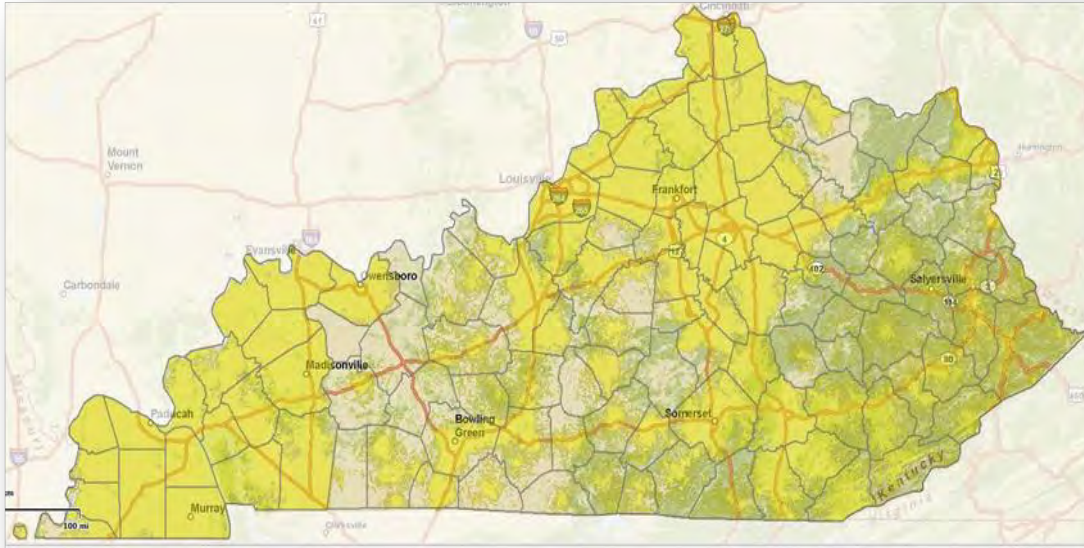


Figure 4: Availability of Mobile Wireless in Kentucky

The **Cable** broadband category has the third highest availability in Kentucky. Consumer Cable broadband service typically ranges from 128KB/sec to 6MB/sec. The availability of Cable broadband is illustrated by the blue shaded areas in Figure 5.

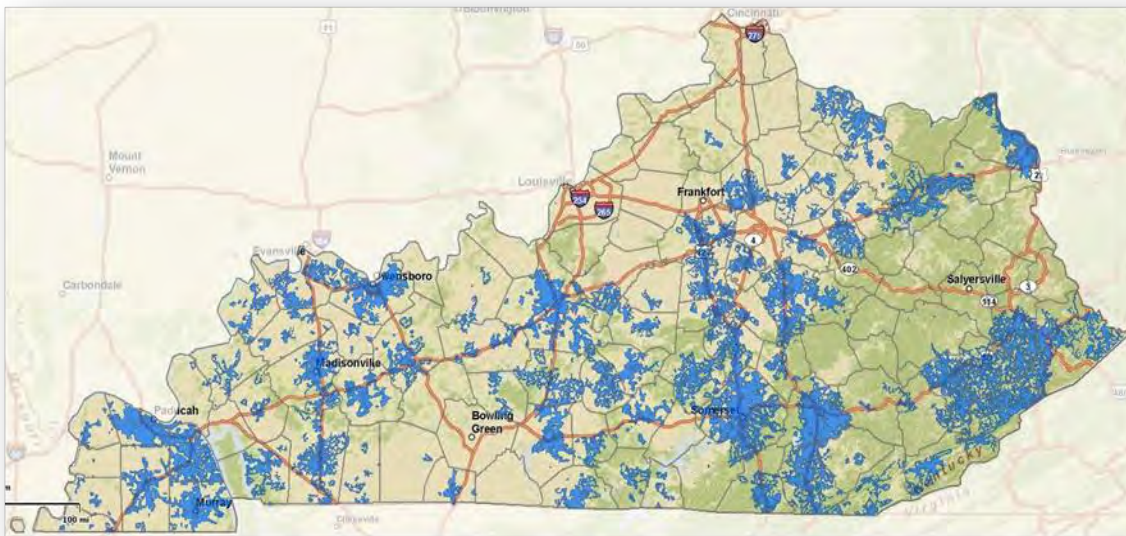
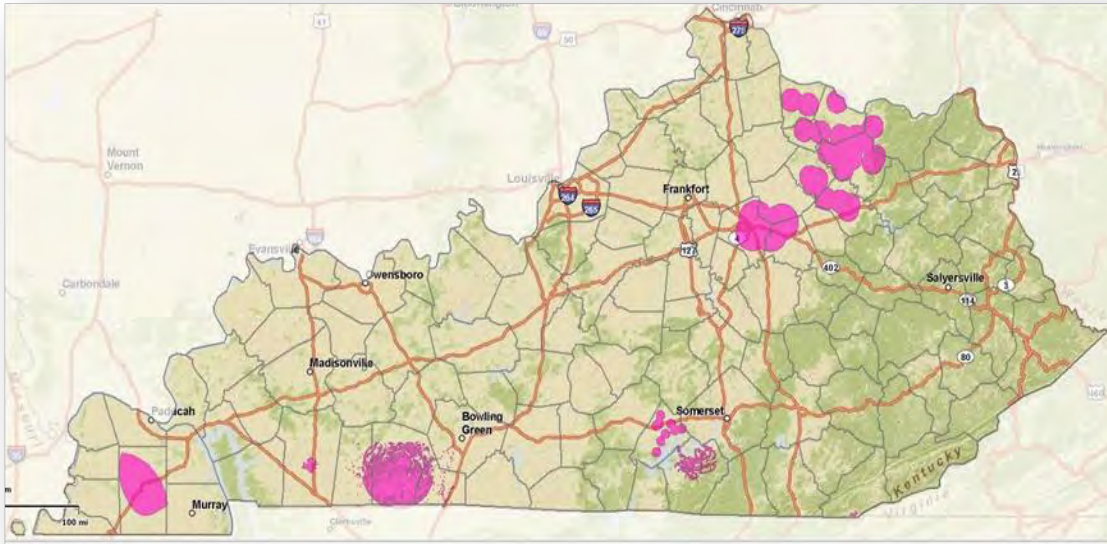


Figure 5: Availability of Cable Broadband in Kentucky



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The **Fixed Wireless** broadband category has the fourth highest availability in Kentucky. Fixed wireless service typically ranges from 1MB/sec to 10MB/sec. The availability of Fixed Wireless is illustrated by the pink shaded areas in Figure 6.



**Figure 6: Availability of Fixed Wireless in Kentucky**

The **Fiber Optic** broadband category has the lowest availability in Kentucky. Fiber Optic service typically ranges from 20MB/sec to 50MB/sec. The availability of Fiber Optic is illustrated by the brown shaded areas in Figure 7.

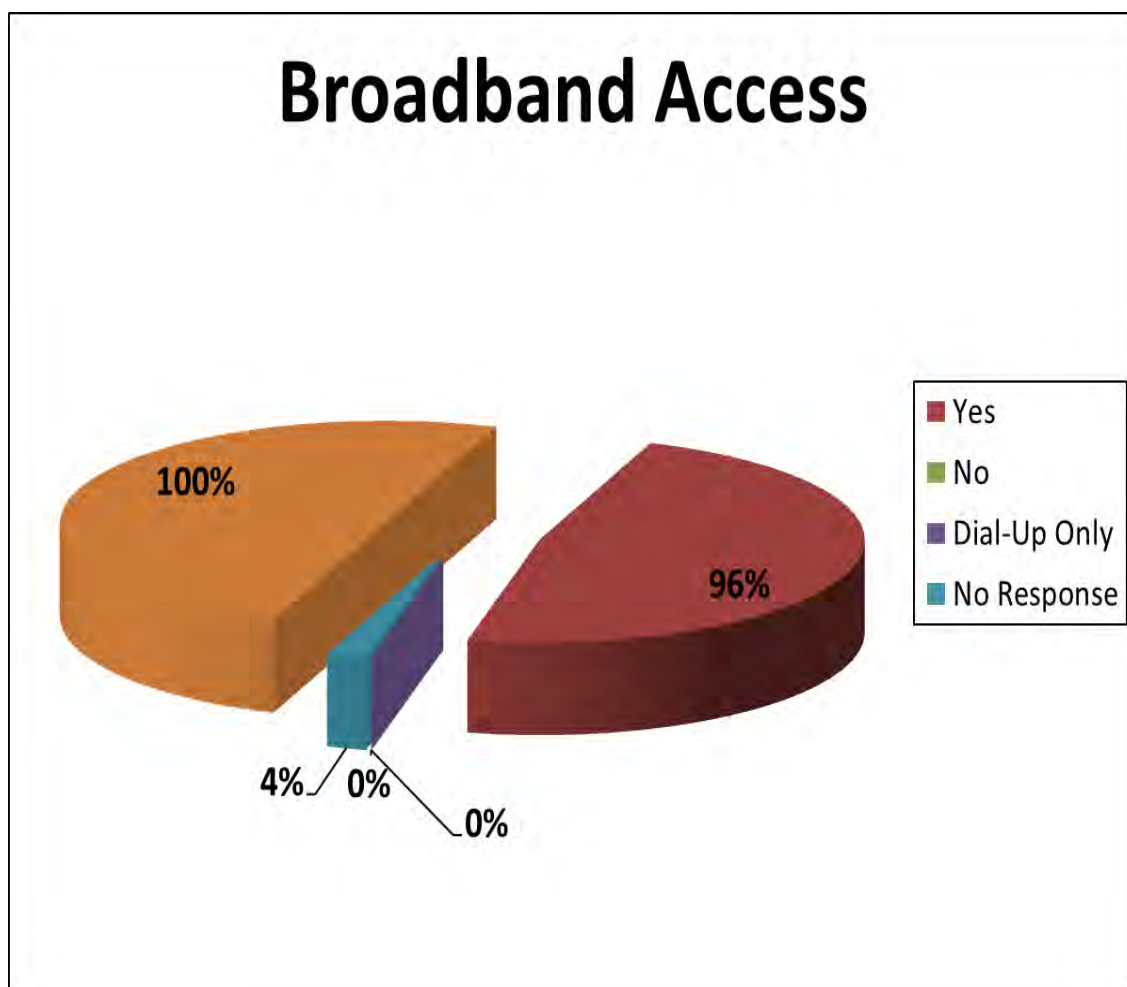


**Figure 7: Availability of Fiber Optic Service in Kentucky**



These findings are consistent with the 2008 University of Kentucky Environmental Scan, which noted that Internet connection did not appear to be a barrier to EHR and Electronic Medical Record (EMR) implementation. This is further supported by the 2010 Kentucky Medical Association Rural Adoption Survey that found that 90% of providers in the 40 rural counties reported broadband access (DSL, cable modem, or faster). Bandwidth is a critical concern, especially in Kentucky's rural areas, as demand for high-speed access and the volume and size of data transfers increase.

Similar to the Environmental Scan findings, broadband access does not appear to be a major issue for Kentucky. As shown in Figure 8, (96%) of all provider respondents reported have access to broadband services.



**Figure 8: Broadband Access**

A variety of other public and private entities have been awarded broadband grants that will aid in making services more widely available across the Commonwealth. These grants support a diversity of activities, including infrastructure expansion, enhancement of digital and general education and literacy, and greater community access to computers and computer services. Table 1 below reflects a listing of these awards and types.

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**Table 1: Grant Award and Type**

Type	Total Award	Grantee
Infrastructure	\$535,308	<a href="#">City of Williamstown, Kentucky</a>
Sustainable Adoption	\$28,519,482	<a href="#">One Economy Corporation</a>
Sustainable Adoption	\$18,701,771	<a href="#">One Community</a>
Infrastructure	\$62,540,162	<a href="#">University Corporation for Advanced Internet Development</a>
Sustainable Adoption	\$14,988,657	<a href="#">Communication Service for the Deaf, Inc.</a>
Public Computer Centers	\$392,000	<a href="#">Boat People SOS, Inc.</a>
Public Computer Centers	\$1,349,826	<a href="#">Kentucky Arts, Education &amp; Humanities Cabinet</a>
Broadband Data & Development	\$5,302,717	<a href="#">Commonwealth of Kentucky Office of Technology</a>
Public Computer Centers	\$743,741	<a href="#">Louisville-Jefferson County Metro</a>

## Next Generation Kentucky Information Highway (NG KIH)

The Next Generation Kentucky Information Highway (NG KIH) is a high-speed, high-capacity fiber network affecting all aspects of life and daily interactions of every citizen, health care provider, public safety responder, educators, and business in the Commonwealth.

Recent studies by the Director of Kentucky TeleCare at the University of Kentucky College of Medicine indicate that approximately (65%) of Kentucky's counties are designated as Health Provider Shortage Areas (HPSA). Kentucky TeleCare is a network of nine rural community healthcare facilities and represents a consortium of four interconnected telemedicine networks. To alleviate this shortage of available health provider/consumer internet access, the Kentucky TeleCare program management office, in association with the U.S. Department of Agriculture, Centers for Rural Development, and Shaping our Appalachian Region has proposed

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the development of an integrated, statewide, fiber optic network. This network, NG KIH, will improve the quality, reliability, usability, and access to shared network services, systems, and information across the Kentucky Commonwealth.

## Objectives and Beneficiaries

Healthcare providers and other entities cannot share health data without broadband. Broadband is, essentially, the “highway” for health information to travel. The NG KIH network, which, when completed, will consist of more than 3,000 miles of fiber optic cable throughout the Commonwealth, will make available the necessary broadband capacity for health information exchange. The capabilities inherent in the NG KIH will support Kentucky’s next generation electronic HIE core components, including a master-patient index, record-locator service, security, provider-user authentication, logging, audits and alerts. To facilitate this fiber optic infrastructure a new, open access, middle mile, fiber optic network will be constructed. This fiber optic infrastructure plan will be implemented in five phases based on location rings with the Eastern Kentucky locations representing priority phases. However, the vision is to do concurrent ring implementations to ensure a timely statewide deployment.

Once a ring is complete, it will come online and be supported by the operations and maintenance team.

## Proposed Phase Corridors

### Phase 1 – I-75 Corridor – Cincinnati, OH to Williamsburg, KY:

This phase provides a 288-fiber strand trunk line that will be the spine of the NG KIH. The Phase 1/I-75 corridor will connect northern and southern Kentucky, as well as eastern and western Kentucky.

### Phase 2 – Ring 1 - Eastern Kentucky – Appalachian Region Beltline

An Appalachian region beltline fiber optic trunk line will circle throughout eastern Kentucky from Somerset to London, Corbin, Hazard, Prestonsburg, and Ashland. The Phase 2/Ring 1 will also connect Pikeville, Harlan, and Pineville to the I-75 Corridor. This area is composed of Kentucky’s most rural counties with terrain that is a challenge for accessibility and redevelopment.

### Phase 3 – Ring 3 - the Golden Triangle – Lexington, Louisville, and Cincinnati

This phase will provide a 288-fiber strand trunk line connecting three cities. Phase 3/Ring 3 will benefit research and development for education healthcare sectors as well as allowing Kentucky’s major hospitals and universities to collaborate with other physicians and educators around the globe.

### Phase 4 – Ring 2 - Northeastern Loop – Lexington, Winchester, Morehead, Ashland, Maysville, and Highland Heights

The northeastern loop trunk line will connect the I-75 Corridor at Lexington to Winchester, Morehead, and Ashland. From Ashland, it will loop up to Maysville and Highland Heights to Cincinnati. Phase 4/Ring 2 will provide the additional bandwidth to ramp up this area of Kentucky.

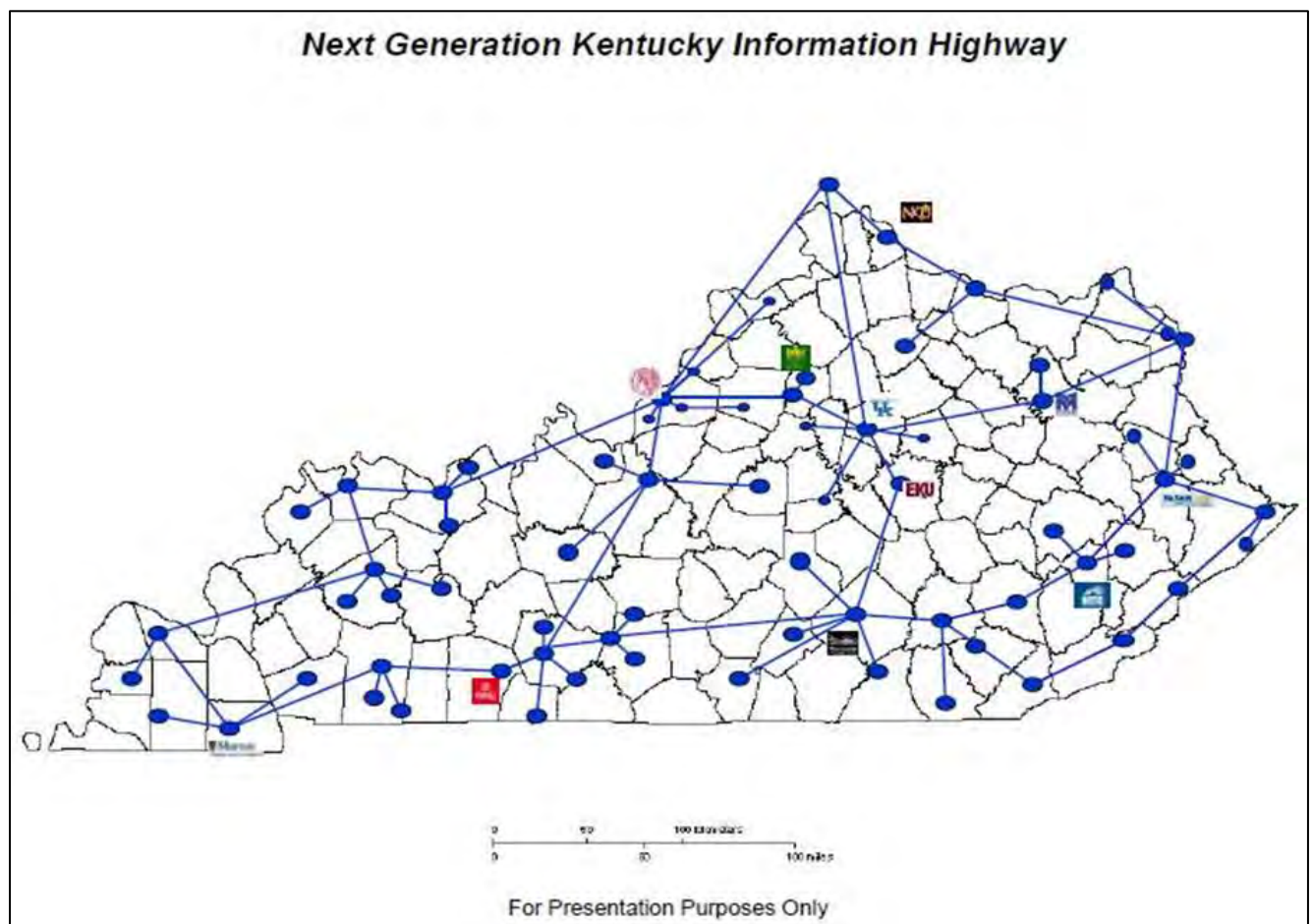
# Kentucky State Medicaid Health Information Technology Plan

## Phase 5 – Ring 4 - I-65 Corridor - Central Kentucky – Frankfort and Elizabethtown

The plan for a 288-optic strand trunk line will pick up at Lexington and connect Frankfort to Louisville, then connect to a 144-fiber cable that travels down to Elizabethtown and Bowling Green. The lower loop of the Phase 5/Ring 4 ring will extend from Somerset through Glasgow to connect with Bowling Green.

## Phase 6 – Ring 5 – Western Kentucky – Hopkinsville, Murray, Paducah, Madisonville, Henderson, and Owensboro

The western region of the Commonwealth is connected to the I-65 Corridor via Bowling Green and Elizabethtown. With the completion of the Phase 6/Ring 5 all of Kentucky will be positioned to access a high speed, high capacity, open access fiber infrastructure ultimately allowing Kentucky to compete in the global economy (Figure 9.)



**Figure 9: NG KHI Middle Mile Network Trunk Lines**

## **Implementation Schedule**

Overall project completion time is estimated at approximately thirty (30) months with a projected kick off between FFY 2015 and FFY 2020. The engineering and implementation phases also overlap allowing for maximum efficiency throughout the entire project as depicted in Figure 10.

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Description	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>NG-KIH Project</b>												
<b>Engineering &amp; Permitting</b>												
Phase I – Ring 1												
Phase II – Ring 2												
Phase III – Ring 3												
Phase IV – Ring 4												
Phase V – Ring 5												
Phase VI – Ring 6												
<b>Implementation</b>												
Phase I – Ring 1												
Phase II – Ring 2												
Phase III – Ring 3												
Phase IV – Ring 4												
Phase V – Ring 5												
Phase VI – Ring 6												

**Figure 10: NG KIH Project Implementation Timeline**

## Outputs

Deploying this fiber network with collaborative partnerships will expand opportunities and possibilities by supporting next generation applications within health care, emergency response organizations, 911 services, education, government, homeland security and more.

Other benefits include the following:

- Expanded use of telemedicine applications by hospitals and healthcare providers;
- Improved rural broadband connectivity to economically depressed areas, thereby creating new job opportunities for these communities;
- Creation of a “Next Generation 911” network, a digital IP based system with the capacity to receive/transmit voice, text, data and video in 911 communications;
- Creation of a public safety and emergency response network (i.e., FirstNet) to link law enforcement, homeland security, and first responders;
- Consolidation and cost reductions regarding the delivery of network services to Kentucky citizens and constituents;
- Increased monitoring capabilities including real-time video monitoring of critical infrastructure such as bridges, roads, and power plants;
- Reduction in future expenses of increasing network bandwidth to constituents;
- Enhanced online learning opportunities;
- Enhanced access to Cloud system/service offerings;
- Enhanced connectivity for libraries and communities;
- Lowered cost of fiber to the tower infrastructure for commercial wireless providers.



## 2.3 Federally Qualified Health Centers (FQHCs)

HIT status with FQHCs in the Commonwealth at this point is accessible through KHIE data. There are 42 FQHC organizations in Kentucky representing 89 provider locations. To date, KHIE has 21 signed Participation Agreements with 20 of the organizations representing 86 locations in the Commonwealth. Of those 20, three locations are live with KHIE, indicating connectivity and exchange of data. The other locations covered by a participation agreement are in KHIE's onboarding queue.

## 2.4 Veterans Administration and Indian Health Services EHR Use

Indian Health Services (IHS) providers are not represented in this plan as there is no presence for IHS in Kentucky. CHFS is currently working with three Long Term Care facilities in the Veterans Administration (VA) health care system that are located in Kentucky by providing the facilities HIE services. The HIE services KHIE provides to these VA facilities include access to a Virtual Health Record (VHR) and Direct messaging.

## 2.5 HIT/E Engaged Stakeholders

There are a variety of engaged stakeholders working with CHFS to expand EHR adoption by Medicaid providers in the Commonwealth. Public and private entities compose this stakeholder group and contribute in a variety of ways to the task of improving the healthcare of Kentuckians through the use of EHRs.

A strong public-private partnership in which each stakeholder accepts responsibility and commits to the effort is required to support a venture of this magnitude. As part of the HIE governance structure in Kentucky, KHIE has a *HIE Coordinating Council* comprised of 24 individuals from key organizations around the Commonwealth. Beneath the Coordinating Council, there are three committees: 1) *Clinical Advisory*; 2) *Privacy & Security* and 3) *Business Development & Finance*. The Coordinating Council acknowledges the role of state government in assuring statewide access to HIE to support MU while being mindful of the fact that government simply cannot do it alone.

The *Kentucky Department for Public Health (DPH)* defers all public health reporting requirements for MU to KHIE. KHIE acts as the intermediary for DPH data collection and reporting registries that include: the Immunization Registry; syndromic surveillance data; the National Electronic Disease Surveillance System (NEDSS); and the Kentucky Cancer Registry. DPH is also working to procure an Electronic Medical Record (EMR) that the department will deploy into all of the 120 Kentucky county health departments. DPH providers plan on using the new EMR to attest to MU upon installation. These local health departments are a critical provider of indigent care at the local level. Currently 95% of the local health departments have signed Participation Agreements with KHIE and have begun onboarding for Direct Secure Messaging services and have access to the KHIE Community Record.

CHFS collaborates with two Regional Extension Centers (RECs) serving Kentucky. The *University of Kentucky (UK) REC* and the *Northeast Kentucky Regional Health Information Organization*

# Kentucky State Medicaid Health Information Technology Plan

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(NeKy RHIO) both perform outreach and technical support in their perspective geographic areas of the state. These organizations provide a full range of services to support the adoption of EHRs and achievement of MU by Kentucky Medicaid providers. Services include:

- Provider Recruitment;
- Education and Outreach;
- Implementation and Project Management;
- Vendor Terms Development;
- Vendor Issue Resolution;
- HIE Interoperability Facilitation;
- Privacy and Security Support;
- Practice Readiness Assessment;
- MU Achievement Support;
- Local Workforce Support;
- Transitions of Care Support.

The *Kentucky Office of Health Policy (OHP)* is the lead CHFS agency developing State Innovation Model (SIM) Model Design resources in the Commonwealth. The SIM initiative was created for states committed to planning, designing, testing and supporting evaluation of new payment and service delivery models in the context of larger health system transformation, with a special focus on population health improvement. On Dec. 16, 2014, CHFS received a \$2 million SIM Model Design grant from the Center for Medicare and Medicaid Innovation (CMMI) of the Centers for Medicare and Medicaid Services. The objective of Kentucky's SIM model design grant is to engage a diverse group of stakeholders, including public and commercial payers, providers, advocacy groups, employers and consumers to develop a State Health System Innovation Plan. OHP is also utilizing the CHFS website to post information about upcoming events and materials developed by the CHFS, other state agencies and stakeholders during the SIM model design period. These materials may also include the state's SIM model design application, presentations from stakeholder meetings and workgroups, State Health System Innovation Plan sections and other relevant resources.

OHP staff members are also providing direction and technical support to DMS under the auspice of a Testing Experience and Functional Tools (TEFT) grant recently awarded to CHFS. The goals of this project are to develop a work plan and timeline to accomplish the following four components of the Planning and Demonstration Grant for TEFT in Community-Based Long Term Services and Supports (CB-LTSS):

- Field test and experience survey on multiple CB-LTSS programs for validity and reliability;
- Field test a "modified" CARE (Continuity Assessment Record and Evaluation) function assessment tool for use with beneficiaries of CB-LTSS programs;

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- Demonstrate use of Personal Health Record (PHR) systems with beneficiaries of CB-LTSS;
- Identify, evaluate and harmonize an electronic Long Term Services and Supports (eLTSS) standard in conjunction with the Office of National Coordinator's (ONC) Standards and Interoperability (S&I) Framework.

The timing of this project coincides with changes Kentucky is making across the Medicaid HIT enterprise to automate Medicaid waiver programs. In addition to automation of agency workflows, these changes also utilize HIE in waiver case management and care delivery to citizens being served through Medicaid waivers. These waivers include the CB-LTSS and other five Medicaid waiver programs in which Kentucky participates.

The *Center for Applied Informatics, College of Informatics at Northern Kentucky University* is a key strategic partner of CHFS in the area of HIT policy evaluation. These areas include the following:

- Health Information Exchange in Kentucky — an assessment of health information exchange including Accountable Care Organizations, Health Information Organizations, DIRECT Exchange, and Integrated Delivery Networks;
- KHIE Progress as measured by executed Participation Agreement, Live Sites, Server Log Analysis, and range of HIE services offered;
- Specialized Initiatives — assessments of targeted initiatives using the KHIE infrastructure consisting of:
  - Behavioral Health;
  - Emergency Department Quality Care Workgroup;
  - Quality in Kentucky.
- Consumer Engagement—Consumer engagement has been part of the strategy for KHIE dating back to its original funding under a Medicaid Transformation Grant. This strategy includes the launching of a patient portal as well as encouraging the broad consumer engagement by all stakeholders within the Commonwealth. In order to encourage and evaluate consumer engagement, KOHBHIE has entered into a partnership with HealthCAWS and the National eHealth Collaborative (NeHC) to use their Consumer Engagement Research Tool (CeRT). Forty-eight locations with live connections to KHIE were selected on a stratified basis to use CeRT. HealthCAWS acts as a third party aggregator of data and provides measurements of consumer engagement for the entities within Kentucky using CeRT. In addition surveys of Providers using CeRT were conducted as part of this Assessment.
- Focus Groups—the evaluation of KHIE has made use of focus groups as a primary tool. This parallels the research undertaken by the National Opinion Research Center (NORC) at the University of Chicago for the ONC.
- Structured Interviews—CHFS was the recipient of a Substance Abuse and Mental Health Services Administration (SAMSHA) sub-grant to include behavioral health information and connect behavioral health facilities to KHIE. Under this assessment specialized



interviews were undertaken to assess future planning for behavioral health initiatives through KHIE.

- Sustainability—Analysis of KHIE sustainability models.

This work has been showcased through the implementation of the programmatic assessment of the ONC State HIE Cooperative Agreement program. CHFS continues to leverage the work of NKU to explore HIE policy, standards, sustainability planning, HIE business needs and HIE IT system designs.

## 2.6 HIT/E Relationships with Outside Entities

As KHIE continues to work toward building a robust Health Information Exchange with patient-centered and coordinated care at the forefront, KHIE plans on deploying its fully functional implementation of cross-enterprise document sharing, more commonly known as XDS.b using Integrating Healthcare Enterprise (IHE) profiles. The implementation of XDS.b will allow providers across the Commonwealth and state lines to query and pull consolidated summary of care documents, hence, enhancing interoperability and improving care transitions.

Additionally, KHIE has partnered with a Direct Trust accredited Health Information Service Provider (HISP) to offer providers across the state to connect their certified electronic health record systems to KHIE's HISP in order to fulfill the transitions of care objective for MU and better coordinate care. KHIE is also working with providers that do not have an electronic health record system or, "white space providers," and is offering both access to the community portal and the direct secure messaging portal. This implementation aligns with the HIT/E goals that the SMA expects to achieve in the next five years.

## 2.7 HIE Presence in Kentucky

By Executive Order, Governor Steve Beshear created KOHBHIE on June 30, 2014, administratively aligning the Kentucky Health Benefit Exchange (KHBE) and KHIE operations.

KHIE has been and will continue to be the public health authority for MU in the Commonwealth of Kentucky and route public health data to the appropriate state and local entities.

KHIE provides the technical infrastructure to allow for data exchange with health care facilities, provider EHRs, and existing or emerging Regional Health Information Organizations (RHIO) across the Commonwealth. Oversight and development of the KHIE is within CHFS, which facilitates communication and collaboration with the Kentucky Medicaid EHR Provider Incentive Program. Core components of the KHIE include a Master Person/Patient Index (MPI), Record Locator Service, security, provider/user authentication, logging and audits, clinical messages and alerts. The system supports e-Prescribe, patient demographics, lab order entry and results, radiology and transcription reports, past medical diagnoses, dates of services, hospital stays, access to the statewide immunization registry, communication of reportable diseases to state registries (i.e. syndromic surveillance registry and cancer registry), and a provider portal.

The goal of KHIE is to assure that all providers, regardless of their level or choice of technology, have access to at least one option to support HIE and the functionality required achieving

# Kentucky State Medicaid Health Information Technology Plan

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Meaningful Use. The hybrid framework is vendor- and technology-agnostic with the focus on enabling optimal connectivity and interoperability and the functionality to support Stage 1 MU.

Currently KHIE includes in its data the following information:

- Patient demographics;
- Lab results;
- Radiology and transcription reports;
- Historical patient diagnoses;
- Medications;
- Procedures, dates of service;
- Hospital stays;
- Reporting to the state immunization and cancer registries;
- Reporting of syndromic surveillance data;
- Reportable labs/diseases;
- Virtual health records for care coordination.

With regard to a VHR, a patient's clinical record on KHIE is available through a Community Record or Continuity of Care Document (CCD). These are differentiated by the technology employed for each one. The Community Record uses edge servers connected via a Virtual Private Network for connectivity. The CCD uses web services for connectivity. Records within KHIE are seeded with four years of Medicaid claims data.

Key projects currently in process with KHIE include the following:

- Onboarding for Public Health Reporting: KHIE is actively onboarding providers for immunizations, syndromic surveillance, reportable labs and cancer reporting to meet Meaningful Use requirements.
- DIRECT Secure Messaging (DSM): 325 locations are currently live with DSM with additional providers in the work queue.
- Supportive Multidisciplinary Alternatives and Responsible Treatment-Emergency Department (SMART ED): This project, aimed at reducing super-utilizers of emergency departments (>10 visits a year), is in 16 locations throughout the Commonwealth. KHIE is supporting this initiative through improved care coordination.
- KHIE has begun working with Correctional Facilities across the state. The Fayette County Detention Center is live; Louisville Metro and the KY Department of Corrections (12) facilities are currently in the work queue.

As of December 8, 2014, 1,033 provider locations were submitting live data and actively exchanging information through connection to KHIE. Of provider types, hospitals represented the largest segment connecting to KHIE with 82% "live" with the agency.

## 2.8 Role of MMIS in HIT/HIE Environment

The overarching purpose of Medicaid Management Information System (MMIS) activities is to move the Commonwealth from the “As-Is” HIT Landscape to the desired “To-Be” landscape. This includes a comprehensive HIT Roadmap and strategic plan for the next five years. The SMHP identifies needs and objectives considered as MMIS-related.

CHFS is still implementing MMIS-related projects as part of a comprehensive HIT strategy to significantly improve clinical/care management for several MMIS-related functions including Prior Authorization.

MMIS components already implemented include an interface between the MMIS and the SLR and changes to the expenditure panels in the MMIS. These projects facilitate issuance of EHR incentive payments through the MMIS financial system, enhancing the expenditure panels to track and show the payments. This provides greater integration of financial processing and reporting and efficient use of HIT resources. The bridge interface between the SLR, KHIE and the MMIS will continue to document attestation and incentive payment data.

Kentucky’s MMIS is comprised of the Hewlett-Packard Enterprise Services interChange system. The interChange system is a rules-based, real-time system that supports functions to include (but not limited to) the following:

- Member Management;
- Benefits Administration;
- Provider Management;
- Third-Party Liability Processing;
- Service Authorization and Prepayment Review Processing;
- Reference Data Maintenance;
- Claims Processing;
- Encounter Processing;
- Financial Processing;
- QA and Audits;
- Early Periodic Screening, Diagnosis, and Treatment Processing;
- Management and Administrative Reporting;
- Surveillance and Utilization Review;
- Case Management;
- Decision Support System (DSS)/Data Warehouse;
- External Data Sharing and Exchange;
- Enhanced Claims Editing.

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The MMIS was designed and built with the foresight to use distinct individual components. This design is supported by the distributed network architecture, modular program design, and precise data model. At its heart is the Oracle 8 database, which offers direct access to the data critical to the operations of the Kentucky MMIS and contains the specific business rules that govern system behavior. The intelligent integration of technology, design, and architecture are a next-generation MMIS unparalleled in innovation, stability, and reliability. The current MMIS is running on the Sun UNIX operating system. However, CHFS is in the process of upgrading the MMIS hardware and software by migrating to the new HP/UX Platform, which will contribute to an increase in overall system performance once application porting and tuning have been completed after installation of the upgrade.

The MMIS supports most aspects of Medicaid Provider Management. Each Medicaid provider must meet the requirements for the provider type and be enrolled in the Kentucky Medicaid Program in order to be reimbursed under the FFS system. There are more than 35,000 enrolled active medical professionals providing services to Kentucky Medicaid members.

Provider types include the following:

- Hospitals;
- Nursing facilities;
- Clinics, labs, and others;
- Commercial vendors;
- Licensed certified practitioners;
- Physical health Managed Care Organizations (MCOs).

The MMIS supports real-time eligibility inquiries and claims submissions by communicating with Value Added Networks (VANs). EMRs/EHRs attached to a VAN have the ability to check Kentucky Medicaid member eligibility from the MMIS system. Real-time claims adjudication capability exists for online direct data entry provider users.

The MMIS supports various reimbursement methodologies, including FFS and capitation, for managed care. In order to be considered for reimbursement for medical services rendered to an eligible Medicaid provider, a medical professional must be an enrolled provider in the Kentucky Medicaid Program and submit claims appropriately. The Commonwealth establishes capitation rates for specific member eligibility categories. The MCO is paid the monthly capitation rate applicable to each member's eligibility criteria. The MCO is a risk-bearing entity, which funds the medical care provided by its network providers from the capitation payments.

As MMIS connections to KHIE evolve, Internet bandwidth and network traffic are evaluated and monitored, and appropriate adjustments are made as needed. The Kentucky MMIS can connect selected operations to the KHIE currently and will continue to do so as more become available. The Kentucky MMIS can also interface with the Kentucky State Level Repository (KY SLR) to provide the capability for issuing provider incentive payments. In the future, DMS is planning to incorporate EHR data to enhance and/or streamline many functions currently performed for

Kentucky Medicaid members including care management, as well as developing policies and programs utilizing the clinical data realized from EHRs.

## 2.9 State Activities to Facilitate HIE & EHR Adoption

DMS utilizes the KY REC for provider outreach and has extended and expanded the KY REC assignment-based contract. Contract expansion will include work focused on Stage 2 MU, and support for Transitions of Care and electronic Clinical Quality Measures (eCQM) for Medicaid providers. The contract also retains provisions to assist providers entering the EHR Incentive Program in the Adopt/Implement/Upgrade (A/I/U) stage. Under the current contract, the KY REC will continue to be responsible for a full range of services to support the uptake of EHR and achievement of MU by this segment of providers for its coverage area.

Described below are categories of expanded milestones along with specific responsibilities under the new assignment-based KY REC contract:

- Expanded Milestones for Stage 2 MU and Additional Support Services for Medicaid Participating Providers;
  - Assist 500 Medicaid Participating Providers for Stage 1 and 2 services.
- Expanded Service for Critical Access & Small Rural Hospitals;
- Quality Improvement Initiative through Meaningful Use;
  - Develop core course materials and online resources consistent with existing KHIE/KY REC material for educational purposes for ongoing Stages of MU;
  - Outreach program to identify and target providers;
  - Create robust marketing campaign explaining benefits;
  - Perform market analysis to evaluate Stage 2 implementation;
  - Recruit statewide through direct contact and through events and conference.

The KHIE Outreach Coordinators provide services to DMS providers who are considering participation in the EHR Incentive Program or are already participating. This outreach activity is a key for maintaining HIT related programmatic connections between the Commonwealth HIE, REC, and EHR Incentive Program teams with providers working to achieve MU in Kentucky.

## 2.10 SMA Relationship with Kentucky HIT Coordinator

The SMA's relationship to the State HIT Coordinator can be defined as tight alignment in regards to the administration of the EHR Incentive Program. Teams work closely on a daily basis and have developed a robust check and balance process to assure that providers are complying with the EHR Incentive Program requirements.

The State HIT Coordinator has organized a Kentucky Collaborative Workgroup that includes Medicaid, the Regional Extension Centers, RHIOs, and Quality Improvement Organizations to

work closely together on MU challenges and one message for our providers across the Commonwealth.

The State HIT Coordinator serves as the director of the state HIE and ensures the technical solutions developed and developing for the HIE support the ability of DMS providers to achieve MU. This work also includes ensuring the solutions extend beyond MU to support goals outlined in the SMA's State Plan Amendment (SPA).

## **2.11 Other Activities that May Affect the EHR Incentive Program**

KHIE is continuing to deploy Direct Secure Messaging (DSM) and a HISP to participating providers as part of the Kentucky suite of HIE services. These added services support providers in need of DSM and HISP functionality to meet Stage 2 MU requirements for Transitions of Care. They also align the Kentucky HIE ecosystem with other states offering DSM services, which facilitate the exchange of data across state borders.

### **Fair Share**

ARRA provides 100% Federal Financial Participation (FFP) to States for incentive payments from CMS to eligible Medicaid providers to adopt, implement, upgrade, MU certified EHR technology through 2021. ARRA also provides 90% FFP for State administrative expenses related to the program. State expenditures related to the development and sustaining of HIE are also eligible for the 90% FFP expenditures if 1) costs are divided equitably across other payers (e.g., private/commercial) based on the Fair Share principle defined as “in accordance with benefits received,” and are appropriately allocated, 2) they leverage efficiencies with other Federal HIE funding, and 3) are developmental and time-limited in nature. FFP of 90% is not available for on-going HIE costs where these services are fully operational.

The SMHP HIT IAPDU approved in April 2014 utilized Cost Allocation Methodologies (CAM) prescribed by CMS. Specifically, three CAMs were used in funding requests: provider volume, transaction volume and, for one specific program involving newborns, Medicaid-paid births. Kentucky's APD was the first approved by CMS among all states dividing costs based on the Fair Share principle.

### **Seven Standards and Conditions**

The Commonwealth is developing systems in an Enterprise mode that will fully comply with the Seven Conditions and Standards. DMS anticipates the future system to demonstrate full compliance against all seven of the CMS standards and conditions through adherence to the directives and underlying industry standards associated with the seven conditions.

DMS will apply the System Development Life Cycle process in future planning, designing, developing, and implementing the Kentucky EHR Incentive Program to the fullest extent possible. As an example of supporting the Leverage condition, the Commonwealth has shared code with other states.

In 2012, Commonwealth staff from CHFS shared code for EHR with Guam, American Samoa and the Commonwealth of the Northern Mariana Islands. Since the program's inception, Kentucky

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has led the nation in sharing code, assisting eight other states in launching their own EHR system.

The table below illustrates the commitment to the Seven Standards and Conditions by CHFS.

**Table 2: Seven Standards and Conditions**

No.	Standards	Conditions	Yes	No
1	<b>Modularity Condition</b>	<p>DMS commits to the use of open interfaces and exposed application programming interfaces; separate business rules from core programming; and to make business rules available in both human and machine readable formats.</p> <p>The system demonstrates that it meets all directives supplied by CMS within the Modularity condition. The proposed system design adopts application architecture standards prescribed by MITA and promotes modular design through the development of open application programming interfaces (APIs), service oriented design, use of a layered architecture, and requires a solution design that employs an isolated rules engine. The Commonwealth addresses CMS requirements for systems design using a mature System Development Lifecycle that conforms to the Commonwealth's Microsoft Solution Framework methodology standard.</p>	✓	
2	<b>MITA Condition</b>	<p>DMS commits to undergoing a MITA self-assessment within 12 months from the date that the MITA version 3.0 is published. At that time, DMS will provide CMS with a MITA Maturity Model Roadmap that addresses goals and objectives, as well as key activities and milestones, covering a five year outlook for the proposed IT solution. This document will be updated on an annual basis. Additionally, DMS will develop a concept of operations and business process model for the different business functions to advance alignment of the State's capability maturity with the MITA Maturity Model (MMM). DMS will work to streamline and standardize operational approaches and business workflows to minimize customization demands on technology solutions and optimize business outcomes.</p> <p>The proposed system design adopts and requires a MITA - based layered application architecture, and promotes alignment with MITA maturity models for business, technical, and information architectures. In addition to MITA maturity alignment, the Commonwealth's system requirements promote and require adherence to relevant MITA standards derived from the MITA standards reference model.</p>	✓	



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No.	Standards	Conditions	Yes	No
3	<b>Industry Standards Condition</b>	<p>DMS will align and incorporate industry standards to promote reuse, data exchange, and the reduction of administrative burden on patients, providers, and applicants. Industry standards have been identified and incorporated in both the requirements gathering and implementation phases of the activities outlined in the HIT IAPD and will continue during the ongoing operation, development, and maintenance of the EHR Incentive Payment Program.</p> <p>DMS will also have risk and mitigation strategies in place to address potential failures to comply.</p>	✓	
4	<b>Leverage Conditions</b>	<p>DMS will support multi-state efforts and regional or multi-state solutions when cost effective, and will seek to support and facilitate such solutions.</p> <p>DMS will identify and consider the use of commercially or publically available off-the-shelf or open source solutions and pursue a service-based and cloud-first strategy for system development to the extent that it is feasible.</p>	✓	
5	<b>Business Results Condition</b>	<p>DMS will focus on results and strive for IT systems that support and enable effective and efficient business processes, producing and communicating the intended operational results with a high degree of reliability and accuracy. Along with this focus on performance, DMS will provide a 21<sup>st</sup> century customer experience that includes the ability for customers to submit and manage interactions with DMS through the web and to self-manage and monitor their accounts and histories electronically.</p> <p>DMS will ensure their customers and others interacting with and using the system have the opportunity to provide feedback pertaining to accessibility and ease of use. Additionally, DMS will development of specific measures to complement federal indicators and measures when they become available with regard to MU.</p>	✓	
6	<b>Reporting Condition</b>	<p>DMS promotes program evaluation through transaction data reports and performance information that contributes to program evaluation and continuous improvement in business operations, transparency, and, accountability; DMS supports the use of reports that are automatically generated through open interfaces to designated federal repositories, with appropriate audit trails.</p>	✓	
7	<b>Interoperability Condition</b>	<p>DMS is committed to a high degree of interaction and interoperability in order to maximize value and minimize burden and costs on providers and the Commonwealth.</p>	✓	



## 2.12 HIT/HIE Activities across State Borders

There are a number of opportunities for health information exchange across Kentucky's borders. KHIE is currently working with Tennessee on DSM to facilitate secure communication across the border for health departments.

In addition to Tennessee, KHIE is in discussions with Indiana, Missouri and West Virginia regarding the implementation of across the border exchange of data using Direct Secure Messaging. KHIE is in the onboarding queue to be an eHealth Exchange participant that will facilitate across the border health information exchange.

## 2.13 KHIE Interoperability with Public Health Surveillance

KHIE's interfaces to the Kentucky Immunization Registry (KYIR), National Electronic Disease Surveillance System, and BioSense are intact and working. As previously mentioned, DPH defers all public health reporting requirements for MU to KHIE. This includes the KYIR, syndromic surveillance, and electronic lab reporting. In addition, KHIE is the intermediary for data from the Kentucky Cancer Registry.

### KYIR

DPH has identified a new vendor to implement a new Commercial off the Shelf (COTS) registry solution. It is estimated the fully-functioning registry will be in place and operative in August 2015. Once operative, the new registry will continue to support MU and accomplish an upgrade of the current integration between the KHIE and the KYIR.

These upgrades will provide the following:

- Bi-directional data exchange between providers and the KHIE/KYIR;
- Integration of the KYIR with the MPI (MPRI/MPAL) platform (future phases).

### Syndromic Surveillance

KHIE currently has 177 connections to providers in the state reporting data of a syndromic surveillance data that is routed to the Centers for Disease Control and Prevention (CDC) BioSense program. This, of course, represents only a percentage of providers in the state, as the Commonwealth currently is working to reduce the number of Medicaid providers in the syndromic surveillance connectivity work queue. This percentage will increase as KHIE connections increase through outreach, adoption of EHRs and continuation of provider onboarding to KHIE syndromic surveillance HIE services.

### Electronic Lab Reporting

One of the Core Objectives of MU Stage 2 for the 101 hospitals in the Commonwealth is electronic transmission of Reportable Diseases/Labs into KHIE. The DPH then delivers data to the National Electronic Disease Surveillance System (NEDSS). The Commonwealth has before CMS a funding request to enhance and facilitate ongoing submission requirements of hospitals to NEDSS to ensure MU compliance.

## Cancer Registry

KHIE is the data intermediary for the Kentucky Cancer Registry (KCR). KCR in October 2012 became the first of its kind in the nation to receive a message from a provider's electronic health record via an HIE.

## 2.14 HIT-related Transformation and CHIPRA Grant Status

The strategic and operational plans for the KHIE have their origin in the network's funding under a MTG awarded to the Commonwealth in 2007. HIE Design, Development and Implementation (DDI) and operational plans have been consistent over time and closely paralleled the expectations and objectives under the State HIE Cooperative Agreement Program awarded to the Commonwealth in 2010. HIE stakeholders in Kentucky recognize the evolving nature of health information exchange and the need for flexibility in dealing with this evolution while providing core services, including the achievement of MU.

## 3.0 KENTUCKY'S "TO-BE" LANDSCAPE

### 3.1 HIT/HIE Goals & Objectives

The overarching goal is meeting the challenge of MU. Stage 1, essentially, was data capture and sharing. MU Stage 2 is aimed at support of advanced clinical process. Critical to MU Stage 3 are core objectives embodied in the "To-Be" Landscape the Commonwealth envisions as systems, processes and activities necessary to improve the quality of the healthcare delivery system in Kentucky. These objectives will set the stage for MU Stage 3 and ultimately the achievement of improved health outcomes in the Commonwealth. The Quality Healthcare Initiative (QHI) establishes the framework for integrating the Commonwealth HIT systems. The QHI is in alignment and supports federal initiatives seeking to integrate state HIT systems to produce improved healthcare outcomes on a national level.

Interoperability of HIT systems is essential for improving health outcomes among Kentuckians. CMS and the Commonwealth as a whole continue to work toward a common goal of HIT system interoperability and finding ways to improve the health and wellbeing of citizens served by the Medicaid program. As a new step toward enhancing HIT system interoperability, CHFS is aligning interoperability of HIE system planning with the *ONC Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap, Draft 1.0* as it evolves. As ONC finalizes the draft version of this document, which will provide states with interoperability guidance, Kentucky will continue using it as a baseline for HIE system planning and development to ensure alignment with the federal roadmap and the healthcare industry.

The Commonwealth vision can be achieved across technologies, standards, infrastructure and policies all linked with the common goal of seamless and secure data exchange. Once interoperability is a reality, the second objective is functionality that is truly productive in improving health outcomes. The Commonwealth also envisions data exchange with measurable results in exchange activity; high usage of data; integration of data across multiple sources; and

# Kentucky State Medicaid Health Information Technology Plan

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interoperability between provider EHRs and CHFS systems. Most important, functionality must enable decision-making by providers and consumers to an unprecedented degree in a future healthcare landscape. The third objective is to enhance the processes and programs delivering data—care coordination and transitions of care; public health monitoring and responses to health crises; and health care and payment delivery models reflecting value received for value delivered. With these objectives achieved, better health outcomes can also be achieved along with reduced costs and improved experiences with healthcare delivery in general.

The adoption and implementation of the IHE technical will enable Kentucky to leverage existing HIT assets given that the framework calls for solutions to be developed with flexible architectures that can adapt to centralized, distributed or hybrid requirements, all of which are commonly found in the Medicaid enterprise.

The enhancements CHFS is planning for KHIE will enable better care coordination by Kentucky healthcare providers by assuring patients and providers have correct and timely information when needed. CHFS is also expecting these enhancements to increase efficiency, improve healthcare quality, reduce errors, decrease duplicate tests or procedures, improve population health, and introduce effective patient engagement. Justly, key service delivery areas of healthcare such as chronic disease management, case management for patients undergoing lengthy procedures, rehabilitation and homecare will realize substantial benefits from HIE.

Improved data technology, appropriate connectivity standards between health and human services systems, and programmatic initiatives reflecting data-driven strategy will improve population health in the Commonwealth. The QHI framework complemented by an achievable e-Health IT architecture is at the core of the initiative. The Commonwealth plans to extend the integration points of QHI to CHFS systems to enable MU and interoperability of EHRs as an effective method of improving healthcare delivery system in the Commonwealth and the healthcare of Kentuckians across the state.

QHI rests upon a Service-Oriented Architecture (SOA) foundation that uses Enterprise Service Bus (ESB), technologies to craft meaningful business processes from reusable technical services. There are also business rules engine, security framework, master data management, analytics and other highly leveraged capabilities envisioned as the foundation of QHI. This extends the life of existing systems establishing a componentized, orchestrated approach for use in their replacement. SOA also makes greater use of new capabilities that are planned. The ultimate result is a decrease in complexity and an increase in the utility of the overall processing architecture. Providers, members, workers and other stakeholders can all share a 21st century user experience in the QHI framework.

A house with pillars has come to represent major systems in QHI. These systems are typically outsourced and have their own user interfaces, reporting capabilities and other functions. These systems, outside the QHI initiative envisioned by the Commonwealth, can also be the source of “siloes” because the funding, contracting and ultimate system deliveries are conventionally separate projects. Within Kentucky’s QHI, however, a solid foundation of integration as well as various portals solves the silo effect. In principle, no “house” can stand without full support of all parts of the structure. Similarly, no successful health initiative can succeed without full integration of each system element.

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Additionally, QHI will be congruent with the mission of federal agencies to improve business process improvement and utilize automated data processing to support the programmatic outcomes of human service agencies.

The mission of QHI and the e-Health IT architecture envisioned by the Commonwealth is threefold, 1) identify and implement better healthcare measures among the population and better manage healthcare costs, 2) create secure and seamless information exchange between healthcare entities to generate collaboration between all entities, and 3) utilize data in determining policy, planning and programs to fully maximize the potential of technology to the benefit of patients and Medicaid providers.

The “As-Is” portion of this plan identifies the challenges to improve population health in the Commonwealth. At the same time, it outlines current programs, projects, and measures aimed at meeting those challenges. From this, the “To-Be” landscape envisioned by the Commonwealth itemizes the following tasks as paramount to achieving improved population health:

- Seamless data exchange of information with the QHI framework;
- Optimization of Managed Care Relationships and streamlined support for remaining FFS processes;
- Service-Oriented Architecture (SOA) solutions comprised of components that integrate into the Commonwealth’s SOA framework;
- Technology that meets CMS certification requirements;
- Comprehensive data management strategies that organize all of the data and enables easy access to information;
- Configurable and extendible solution to cost-effectively support Kentucky’s future expansion of programs and populations, and to meet current and future regulatory needs.



Figure 11: Quality Health Initiative “House”

The investment in this infrastructure and subsequent development will establish the connections among disparate health care systems. This will significantly improve provider and patient leverage of health information. The result of this investment is potential for transformation of public health in the Commonwealth at every level – from service to the public by state agencies, to providers of health care, and to patients actively engaged in their health outcomes.

## 3.2 IT System Infrastructure

In order to achieve the SMA's HIT/E goals and objectives, KHIE must have the XDS.b implementation live. This implementation will allow true interoperability among disparate EHR systems both in and out of state lines. Allowing this communication among distinct EHR vendors and healthcare providers will contribute significantly to the HITECH three-part aim, among other benefits. Currently, interoperability among vendors is a daily challenge. The implementation of this system upgrade will help to omit some of the current challenges faced today. The following items should be in place in order to ensure EHR adoption and MU of EHR Technologies:

- The implementation of a statewide provider directory with national standards;
- Standardized patient matching;
- More rigorous EHR testing and certification;
  - Real-world testing scenarios with live systems;
  - Stronger and more specific standards with less variability;
- Electronic Clinical Quality Measure (eCQM) submission.

As HIE architecture is moving toward web-based applications and a common markup language for storing and exchanging electronic health records, Kentucky is exploring options for developing a next generation HIE. The options will utilize information from the two JASON reports released in 2014 titled: *A Robust Health Data Infrastructure* and *Data for Individual Health*. Additionally, CHFS is also planning to leverage the work of Electronic Data Interchange (EDI) standards organizations focusing on HIE architecture. Migrating to a fully web-based HIE architecture will enable third-party developers to bridge existing systems to future HIE applications using Application Program Interfaces (APIs). These applications can be built on existing HIE architecture and enable data exchange across a variety of platforms, which creates exchange functionalities independent of respective implementations. The Commonwealth, while a leader in HIE, recognizes the need to stay abreast of challenges to interoperability, information flow and usage, and the impact on delivery processes and patient outcomes. The Commonwealth reflects this strategy in updates to the annual APDU in order to explore and assess future HIE technology requirements. This will position the HIE to appropriately serve the Kentucky Medicaid population and play a leading role in improving the health of citizens throughout the Commonwealth.

## 3.3 Medicaid Provider Interface with EHR Incentive System

The SLR is available to support the registration of Kentucky providers wishing to participate in the Kentucky EHR Provider Incentive Payment Program. DMS is within tier 1 states and tests interfaces with the National Level Repository (NLR). DMS evaluates transactions from the NLR to determine if providers are eligible and if payments have already been received.

Providers must first complete the NLR registration at CMS before registering for payments from the Kentucky EHR Incentive Program. The NLR will transmit or make available transactions indicating that the provider registered and provided associated data for use by Kentucky Medicaid in administering its program. The SLR will have at a minimum the following capabilities:

- Interfacing with the NLR;
- Online data entry by providers;
- Attestation module;
- Workflow;
- Payment processing.

Ongoing development planning and implementation efforts are focused on maintenance and making changes required to assist providers in meeting attestation requirements for Stage 2 MU requirements.

## 3.4 HIE Governance Structure

The current KHIE Coordinating Council will continue to mature and evolve as the primary forum for healthcare stakeholders to share their concerns and interests and provide input on strategies. In addition, the Commonwealth continues to create a standards-based technology architecture that will allow data from KHIE and other CHFS systems to be connected/combined enabling the reporting of both service-based and outcome-based results. This evolving analytics ability will need to be directed by a program area team responsible for Data Governance to ensure the proper policies are in place to manage sharing and distribution of data while preserving security and privacy.

## 3.5 Provider Adoption Encouragement

Encouraging new healthcare models that pay providers for higher value in clinical care, rather than fee-for-service, is another legislative goal. A high-profile proposal introduces the Accountable Care Organization (ACO) model in which CMS will reward providers for consistently positive patient outcomes and penalize them for poor results. Since many Americans have multiple conditions requiring care by multiple providers, ACOs will need to tightly coordinate their clinical operations and heavily rely on EHRs with built-in support for data standardization and dissemination in real time. Long term, ACOs will also require data



analytics and predictive modeling to support care while identifying opportunities to reduce costs.

Options to encourage use of EHR technology by ineligible providers include the following:

- 1) Summary of Options for Incentives, Other Funding, and Support;
- 2) Other Options - Guidance from Technical Advisory Group.

### **3.6 FQHCs with Health Resources and Services Administration (HRSA) HIT/EHR Funding**

Currently the SMA is unaware of HIT funding the Kentucky FQHC's may have received, but plans to collect this data are in the next Environmental Scan. At present, the Commonwealth has been working diligently to sign HIE Participation Agreements with FQHC organizations and establishing HIE connectivity with FQHC providers. There are 23 FQHC organizations in the state of Kentucky, representing 86 provider locations. Twenty-one (21) of the 23 organizations have signed KHIE Participation Agreements (representing 82 locations). Forty-two locations are currently live in production, submitting data to KHIE. The Commonwealth envisions the ability to leverage current information and data from the new Environmental Scan to improve coordination of statewide HIT funding streams with FQHCs for the purposes of furthering interoperability and MU goals in the state, in addition to directing EHR Incentive Program resources to FQHCs needing assistance with achieving the various stages of MU. Coordination improvements may include, but not be limited to: targeting state and KY REC outreach services to improve connectivity timeframes, developing additional collaboration channels for future funding opportunities and utilizing local HIT funding to develop HIT infrastructure capable of reaching achievable health outcomes necessary for advancing population health and payment reform model goals established by the Commonwealth and Kentucky healthcare stakeholders under the CMS SIM Grant program.

### **3.7 Technical Assistance for Medicaid Providers**

The SMA contracts with the KY REC to provide technical assistance to Medicaid providers participating in the EHR Incentive Program. The scope of this technical assistance includes 1) Education, Outreach and Recruitment, 2) Practice Facilitation and Advisement on MU Attestation Readiness, 3) Working with Hospitals to capture eCQMs and align measures with the SMA's SPA, 4) Providing technical assistance to providers regarding MU Services for Transitions of Care, and 5) Supporting the rollout of Direct HIE services and 6) Providing an MU Community of Practice for Medicaid Providers. In addition to these KY REC services, the SMA is also supported by the Commonwealth HIE through outreach services given to Medicaid providers regarding the EHR Incentive Program, Commonwealth HIE services, and availability of technical services through the KY REC.

## 3.8 Unique Needs Population

In this report, frontline staff stressed the importance of supportive services, including outreach, case management, and transportation, for addressing the homeless population's unique needs and underscored the vital role of housing, noting that providing stable housing can enable an individual to manage previously untreated mental and physical health conditions

The Commonwealth's plans for two unique populations involve improving and expanding services to one group — newborns in the Commonwealth through KYCHILD data integration-- and expanding services and care to a second group — foster children through Virtual Health Records.

### KYCHILD Data Integration

Currently two sets of data are generated for newborns in the Commonwealth. Hospitals send blood samples (also known as blood spots) immediately to the state lab. Birthing facilities enter certificates of live birth information into the KYCHILD web application. Both sets of data require matching.

In a significant portion of instances, data sent to the state lab is for a newborn whose name has not been fully determined. Data into KYCHILD, however, is entered before hospital discharge and must carry the full, finalized name. The KYCHILD birth data is given an identifier that is sent to the state lab to match lab and birth data. In instances where the state lab receives blood samples before the baby was fully named, the identifiers have to be matched. Currently, this is done in a manual queue requiring three or four days with the inherent risk of human error. Meaningful Use requires hospitals to submit immunization data. Newborns receive their first hepatitis B vaccination at the birthing facility. This data is transmitted to KHIE and passed on to the Immunization Registry. These initial immunizations are lost because the KYIR rejects messages when the newborn's name is not fully qualified. The KYCHILD Data Project would automate mapping of state lab identifier and KYCHILD identifier through an interface between KYCHILD and KHIE. This would automate mapping of disparate identifiers, improve the data quality of the KYIR and KHIE, and reduce, if not eliminate, errors.

### Virtual Health Record for Foster Care

Health histories for foster children are incomplete in many instances. This precludes family health history that could be beneficial to a foster child. As well, natural-born children of parents who were foster care children are deprived of the family health history of generations prior to their parents. The Commonwealth plans to develop and implement VHRs for the foster care population to develop and utilize meaningful and complete medical records to enhance the coordination of care and access to services and improve health outcomes. VHRs would also enable state agencies of the Commonwealth to meet full compliance with regulatory reporting requirements.

## 3.9 HIT Grant Leveraging for EHR Incentive Program

With the implementation of ARRA and HITECH in 2009, the CHFS applied to be the state-designated entity for health information exchange in Kentucky. A Medicaid Transformation



Grant supported the development of the Kentucky Health Information Exchange (KHIE) and a subsequent ONC grant facilitated operational and additional development of KHIE until 2014.

The ONC grant expired on February 7, 2014. On April 21, 2014, CMS approved the submission of HIT IAPDU-#2 and KHIE is now funded through that APD. Funding received through the HIT IAPDU is cost allocated under the CMS Fair Share principle. Kentucky is utilizing a blend of Medicaid and Fair Share funding to realize the To-Be vision for the next generation of health information exchange services in the Commonwealth. This vision will continue to support future stages of MU and the EHR Incentive Program.

### **3.10 State Legislation Outlook Relative to EHR Incentive Program**

At this time the Commonwealth does not anticipate the need for new or existing changes in state law to continue implementing the EHR Incentive Program. However, the Commonwealth has been working on developing regulations to support MU and the transmission of data by providers across interagency HIT platforms such as reportable disease and immunization registries, as one of the Core Objectives of MU Stage 2 for the 101 hospitals in the Commonwealth is electronic transmission of Reportable Diseases/Lab, also known as electronic Lab Reporting (ELR). On March 2, 2015, Kentucky did promulgate new Administrative Regulations pursuant to Reportable disease surveillance under KRS 214.010. Section 9 of the new regulation (902 KAR 2:020) Reportable Disease Surveillance states: "Beginning October 1, 2016, notification of the following diseases shall be considered routine and shall be electronically reported to the Kentucky Department for Public Health through the Kentucky Health Information Exchange within five business days."

As previously noted, KHIE is the intermediary for routing data from hospital EHRs to the National Electronic Disease Surveillance System (NEDSS), which resides within DPH. KHIE has already commenced the onboarding Kentucky hospitals for ELR. The Commonwealth has requested funding from CMS to enhance and facilitate ongoing submission requirements of hospitals to NEDSS to ensure MU compliance. However, given this new regulation and the inherent requirements of it, Kentucky will evaluate additional needs, including outreach, education, training and other resources moving forward for inclusion in a future HIT IAPDU.

### **3.11 Other Issues**

While much progress has been made to establish standards for information exchange at the national level, there would not appear to be a viable mechanism to encourage the implementation of HIE to HIE exchange. The Commonwealth believes this functionality is critical to development of a fully functional HIE infrastructure and should be considered for demonstration projects. This project could be used to fund private or public agencies to apply for funding to develop exchange gateway "switches" for the sole purpose of connecting disparate HIE's together. Both providers and patients should adopt both standards and certification requirements at the national level to ensure this national health network is both secure and trusted.

## **4.0 KENTUCKY'S ADMINISTRATION & OVERSIGHT OF THE EHR INCENTIVE PAYMENT PROGRAM**

### **4.1 Verification of Non-Sanctioned, Properly Licensed/Qualified Providers**

The SMA will verify in the preliminary and eligibility review queues that the provider holds no sanctions and is properly licensed by verifying the provider's status with the state licensure board as well as the Office of Inspector General and system for award management.

### **4.2 Verification of Hospital-Based Eligible Providers (EP)**

Encounter data is analyzed for the reporting period with the provider's National Provider Identifier (NPI) in the rendering provider field, specifically looking at place of service 21/23 submitted on their claims. Queries extracted from the DSS report findings on both total Medicaid encounters submitted by the provider, as well as the claims rendered under the place of service reported as 21/23. A manual calculation is performed against the data returned from DSS query to determine if the returned results total 90% or above. If the percentage is 90% or greater, the provider will be deemed as hospital based and ineligible to receive incentive payments.

### **4.3 Communication to Providers Regarding Eligibility and Payments**

When the provider is deemed eligible and when payment is processed for the state program, an email will be sent to the provider to the email address submitted upon CMS registration as well as post an announcement for the provider when they log into the SLR.

### **4.4 Patient Volume Calculation Methodology**

In calculating patient volume, all Medicaid encounters for the provider are considered, including medical, pharmacy, and Medicare crossovers, for dates of service within the 90 day period designated by the provider. A Medicaid encounter is defined as any service rendered on any one day to an individual enrolled in a Medicaid program whether or not Medicaid had a financial interest in the services that were rendered. If a Medicare crossover claim is submitted and pays \$0.00, and it is determined that the member was participating in Buy In on the date of service, then the claim is considered as an encounter. Adjustment claims are not included in the calculation. Claims submitted by the provider are considered if the provider is the rendering provider and/or the billing provider.

Member encounters are counted as one unique encounter per member per day. If a member sees the same provider twice in a day (and two separate claims are submitted), it is counted as one encounter. Multiple claim detail lines on one claim submission are counted as one encounter. Member eligibility in Title XIX is confirmed (Title XXI is excluded) only claims submitted for Title XIX are counted toward the encounter calculation.

## 4.5 Data Sources for Patient Volume Verification

Kentucky is utilizing data points in the KY MMIS data warehouse as the source data to verify patient volume for EPs and Eligible Hospitals (EH). The Commonwealth employs the patient encounter methodology to verify patient volume for both EPs and EHs. The Commonwealth also collects data directly from providers during outreach calls to perform a secondary review of the data in the event of a discrepancy regarding an attestation under review.

## 4.6 Verification that EPs at FQHC/RHCs Meet Requirements

MMIS is used to determine the EPs in FQHC/RHC. These provider types must be enrolled in the Kentucky Medicaid program as an FQHC in order to participate in the EHR Incentive Program. Enrollment for providers of this type is verified through the KY MMIS.

## 4.7 Verification of Adopt, Implement, and Upgrade of Certified EHR Technology

The CHFS EHR staff reviews the data attested by the provider to ensure the provider meets the EHR certification system requirements for the KY EHR Incentive Program. The following questions are reviewed for response from the staff working this queue:

- 1) Is EHR Certified?
- 2) Is EHR documentation uploaded?

The web application validates, through system editing, the certification id entered during the provider's attestation is a valid Certified Electronic Health Record Technology (CEHRT) ID. EHR documentation is required to pass the EHR validation. The CEHRT ID is validated by looking up the vendor, product, or Certified HIT Product List (CHPL) product number in the documentation provided by the EP at the following website <http://onc-chpl.force.com/ehrcert>. CHFS looks for any legally and/or financially binding documents attached to the attestation that show the provider/practice has adopted, implemented or upgraded to a certified EHR system. For example, a contract, invoice, purchase order, or other legally/financially binding documents. In the event the provider has utilized a certified EHR that is web-based and at no cost, every effort will be made to capture as much credible data as possible such as the combination of a letter from the vendor along with the license/user agreement.

## 4.8 Verification of Meaningful Use in Second Participation Year

The Certified Electronic Health Record Technology (CEHRT) ID is verified at the ONC CHPL website that the CEHRT is interoperable with the public health measures selected within attestation. A second step in the verification process includes confirming the provider has completed and signed the KHIE Participation Agreement and appropriate Addendum(s) for the public health measures. The Immunization Registry, Reportable Labs, the Kentucky Cancer

Registry, and Syndromic Surveillance are public health measures available to Kentucky Medicaid providers to attest to MU as required by the Final Rule.

## **4.9 Proposed Changes to Meaningful Use Definition**

The Commonwealth does not intend to propose changes to the MU definition.

## **4.10 Collection of Meaningful Use Data of CEHRT**

The SMA will collect providers' MU data, including the clinical quality measures (CQM) for both the short-term and long-term by following the recommendations provided. In order to capture more accurate MU data, the SMA must work in tandem with CMS. Accurate and timely data is necessary from CMS for dually qualified hospitals that attest to the Medicare and Medicaid EHR Incentive Program. The SMA will collect clinical quality measures in the long-term through KHIE. The KHIE will collect the eCQM data and route it to the SMA and CMS.

For public health reporting, KHIE will provide monthly reports showing the number and types of messages received by each MU participant. The SMA will have this information available at the time of attestation to verify ongoing submission.

KHIE has also implemented a KHIE participant database that is used to manage and track participants' progress toward public health reporting and usage of other KHIE services. The SMA uses this participant database to verify MU attestations.

## **4.11 Alignment of Data Collection and Analysis with Clinical Quality Measures Data**

As mentioned above, the Commonwealth is following recommendations by CMS and ONC for collecting MU data, including CQMs from Medicaid providers participating in the EHR Incentive program. The Commonwealth is working to align the current CQMs the Kentucky Medicaid program utilizes for program monitoring and reporting with CQMs being captured by KHIE from Medicaid provider EHRs participating in the EHR Incentive Program. This alignment will further support efforts to continue implementing the shift from FFS to managed care delivery models and other payment reform models Kentucky is exploring under a SIM grant focusing on payment reform model design.

Part of this alignment will be the analysis of CQMs captured through provider EHRs and collected by KHIE in comparison to CQMs derived from Medicaid encounter data and analyzed by the DMS Quality Improvement Organization vendor. This analysis also includes the ability to automate delivery of the data to DMS systems from KHIE, display it in a readable format for multiple purposes and ensure the ability to transport it to other DMS trading partners who must utilize it for performance monitoring. The alignment of the CQMs by DMS is inclusive of DMS services for both adult Kentucky Medicaid members and children enrolled in the Kentucky Children's Health Insurance Program.

## 4.12 IT, Fiscal and Communication Systems Used to Implement the EHR Incentive Program

Status: These systems are currently in implementation.

## 4.13 Necessary IT Changes for EHR Incentive Program

Status: Implementation is ongoing as the Commonwealth continues to make system changes in response to new federal rules governing the EHR Incentive program.

## 4.14 IT Timeframe for Systems Modifications

The Commonwealth reviews system change requirements and coordinates them with the annual HIT IAPDU. Current solutions supporting the EHR Incentive Program will be modified to support utilization of the Kentucky Online Gateway (KOG) single sign-on solution and a Master Client Index (MCI). The Commonwealth will extend these solutions across all systems in the Kentucky Medicaid enterprise. The Commonwealth MCI will contain two specific indices: the Master Provider Index (MPri) and Master Patient Index (MPal). In the longer term vision, Kentucky will also extend these solutions to the future replacement MMIS also known as MEMS using the QHI integration framework. A high level time line for the development of these solutions is below.

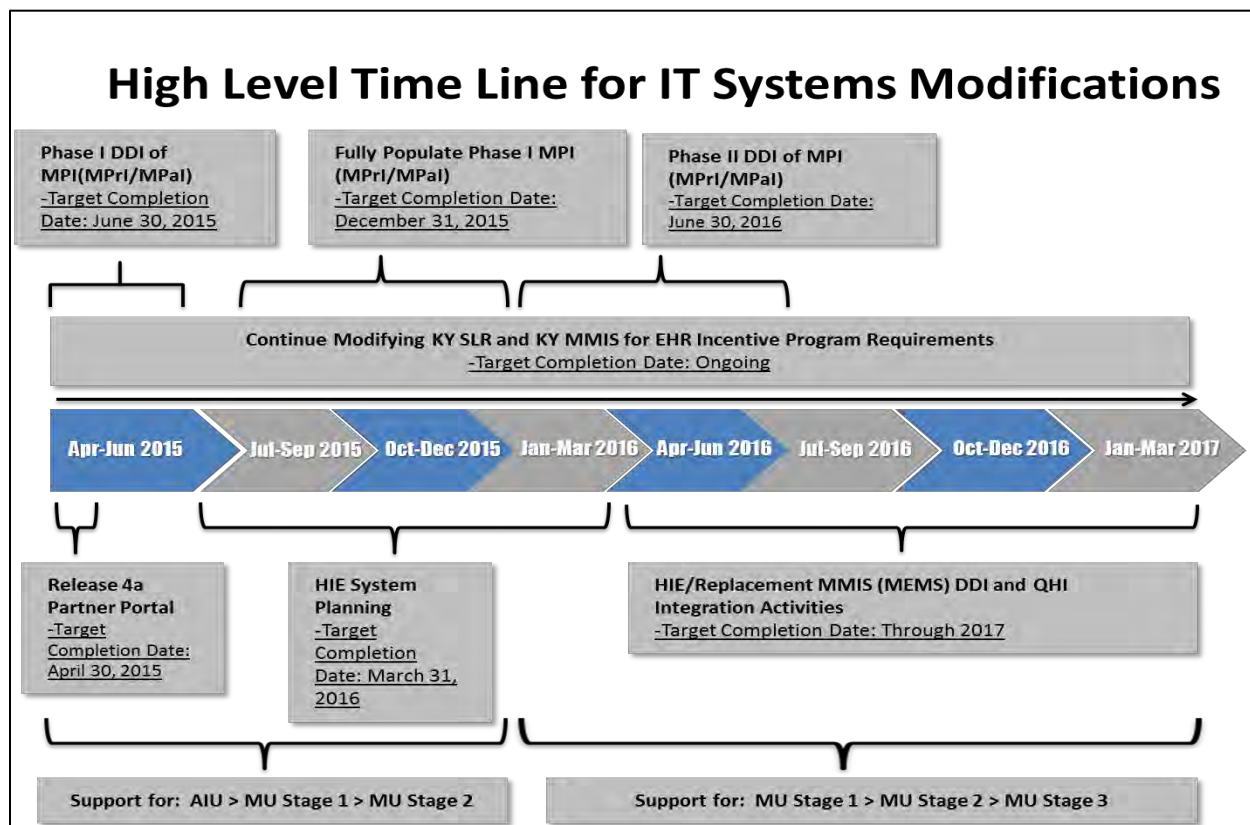


Figure 12: High Level Time Line for IT Systems Modifications

## **4.15 Timeframe for Test Readiness with the NLR**

Status: Implementation is ongoing. The Commonwealth is currently in the next phase, communicating and exchanging data with CMS.

## **4.16 Plan for Accepting Registration Data from NLR**

The SLR is the interface to the NLR for purposes of receiving Medicaid provider registration data and performing eligibility matches to ensure Medicaid providers are eligible to participate and receive incentive payments. The Commonwealth also uses the SLR to report incentive payments to CMS by transferring files from the SLR to the NLR.

## **4.17 Website for Provider Enrollment and Program Information**

A website has been deployed for Program Information only. Kentucky Medicaid providers enroll in the EHR Incentive program by logging onto the CMS registration site.

## **4.18 MMIS Modifications and HIT IAPDU**

Kentucky has modified the KY MMIS for the purposes of implementing activities outlined in the Commonwealth's SMHP. Funding and approval for these modifications has been documented and approved by CMS through the submission of the annual HIT IAPDU to CMS. Details of these MMIS modifications are described below.

### **4.18.1 FFY 2010 through 2014 MMIS Activities**

CHFS has implemented and is continuing to develop MMIS-related projects under the HIT IAPD to support MU. These projects are part of a comprehensive HIT strategy that greatly improve clinical/care management for several MMIS-related functions including Prior Authorization.

MMIS components already implemented include an interface between the MMIS and the SLR, and changes to the expenditure panels in the MMIS. These projects facilitate issuance of EHR incentive payments through the MMIS financial system by enhancing the expenditure panels to track and show the payments. This provides greater integration of financial processing and reporting, and efficient use of HIT resources. The "bridge" interface between KHIE and the MMIS will continue to document attestation and incentive payment data.

### **4.18.2 Changes to the CMS 64 Reports**

CHFS reported modifications to the MMIS and Data Warehouse to correctly record expenditures, attestation information and approval information to satisfy reporting requirements. This included the creation of a new Management and Administrative Reporting (MAR) category of service for state and federal reporting. CHFS also made the necessary changes to the CMS-64 reporting process to add the additional line item payment and administrative information. CHFS also modified the Medicaid Statistical Information System (MSIS) file to accommodate the incentive payment program as required by CMS.



## **4.18.3 Changes to the Data Warehouse to Collect and Report on MU**

CHFS has transferred provider Medicaid MU data to the Medicaid Data Warehouse. This aggregated MU data provides outcomes records for analysis to guide and direct the Medicaid Program, allowing it to plan interventions that will lead to improved quality of care and patient outcomes. This electronic data meets standards developed to result in uniform reports. In addition, this data helps Medicaid to validate MU beginning Year 2.

## **4.18.4 Planned HIT MMIS Activities**

The Commonwealth has continued to enhance the bridge interface between the MMIS and KHIE for data gathering for attestation and EHR incentive payments. Particularly with MU Stage 2 requirements, this bridge and other MMIS projects enable the Commonwealth to continue focusing on the Design, Development and Implementation (DDI) of functionality and enhancements between the SLR and KHIE. This reduces the administrative burden associated with managing the EHR Incentive Program. In response to the CEHRT Flexibility Rule the Commonwealth has revised the SLR to accommodate the necessary updates to allow providers to continue to attest to Meaningful Use. This functionality is extensible to the future MEMS.

## **4.18.5 EHR Incentive Payment Program Queues Automation Project**

CHFS developed technical architecture for the Kentucky EHR Incentive Program in-house along with on-going technical support. This includes automation of eCQM submissions. Changes to the MMIS and KHIE for the EHR Incentive Program have included development of new queue-related services, database interfaces for provider-related information, and payment-related information.

## **4.19 Call Centers/Help Desk Support for Incentive Program Questions**

The Kentucky EHR Incentive Program team utilizes workflows, established processes and business rules (e.g., eligibility, attestation, enrollment and registration, NLR/SLR, submission of Meaningful Use data, appeals, and incentive payments to providers, etc.) to ensure the Commonwealth is able to provide assistance to providers participating in the program. Standard procedures and FAQs are frequently updated for consistency to support implementation and ongoing incentive program operations. The team receives and responds to calls and other forms of correspondence (email and letters) using the existing standard the MITA Manage Provider Communications business process.

## **4.20 Provider Appeal Process Relative to the Incentive Program**

If a provider disputes the amount of overpayment, the provider may initiate the administrative appeals process in accordance with the governing Kentucky administrative regulation 907 KAR 1:671, Conditions of Medicaid provider participation; withholding overpayments, administrative appeal process, and sanctions. This regulation must be revised to accommodate the new incentive payment regulation being drafted that includes a dispute process for incentive



payments and payment calculations. A timely filed request of administrative appeal process will stay the recoupment activities by CHFS pertaining to the issues on appeal until the administrative appeal process is final. If CHFS, after reviewing all documentation submitted during the administrative appeal process, determines that no adjustments are required, the initial determination will stand. If CHFS DMS determines that the amount of overpayment demand should be reduced, any refund due to the provider will be processed within 30 working days from the date of the determination.

Payments amounts that need to be collected are refunded to CMS via the appropriate CMS-64 adjustment. Existing regulation (907 KAR 1:671) allows CHFS to approve a payment plan if the criteria specified within the regulation are met.

## **4.21 Process for Separate Accounting of HITECH Provisions and MMIS FFP**

Chart of account elements (primarily sub function) used to code expenditures are different for the incentive payments vs. the HIT administrative match. General Accounting uses these differences to break out the charges separately on the CMS 64 report between lines 24C and D (in-house/contractors) for administrative payments and lines 24E and F (professionals/hospitals) for incentive payments.

## **4.22 Anticipated Frequency for EHR Incentive Payments**

EHR incentive payments are made to EP's and EH's on a weekly basis.

## **4.23 Direct Payments to Provider or Assignee without Deduction or Rebate**

Direct payments are made to the provider or assignee without Medicaid deduction or rebate. Upon the submission of a successful attestation, the KY SLR system calculates an estimated incentive payment amount. At this stage in the process, the attestation documentation also undergoes a prepayment audit to verify the provider is eligible to participate in the program. The SMA also passes the D-16 file to CMS for the purpose of ensuring the provider has not received an incentive payment from any other state. After verifying this data with CMS, the Commonwealth initiates the check writing process for the EHR Incentive Payment program. The business rules and processes for issuing incentive payments to Kentucky Medicaid providers participating in the Kentucky EHR Incentive Program have been established for the express purpose separating these payments from any other type of agency reimbursements to Kentucky Medicaid providers. Having a separate reimbursement process for EHR incentive payments enables the Commonwealth to ensure there are no deductible or rebate transactions blended with EHR incentive payments designated for a provider or an employer or facility to which the provider has assigned payments.

## 4.24 Payments to Entity Promoting Adoption of Certified EHR Technology

An individual provider receives payment, unless the provider assigns it to another entity. A letter describing the Provider Incentive Payment Reassignment process is posted on the Kentucky EHR Incentive Program website. A copy of this letter is displayed in Figure 13 below.

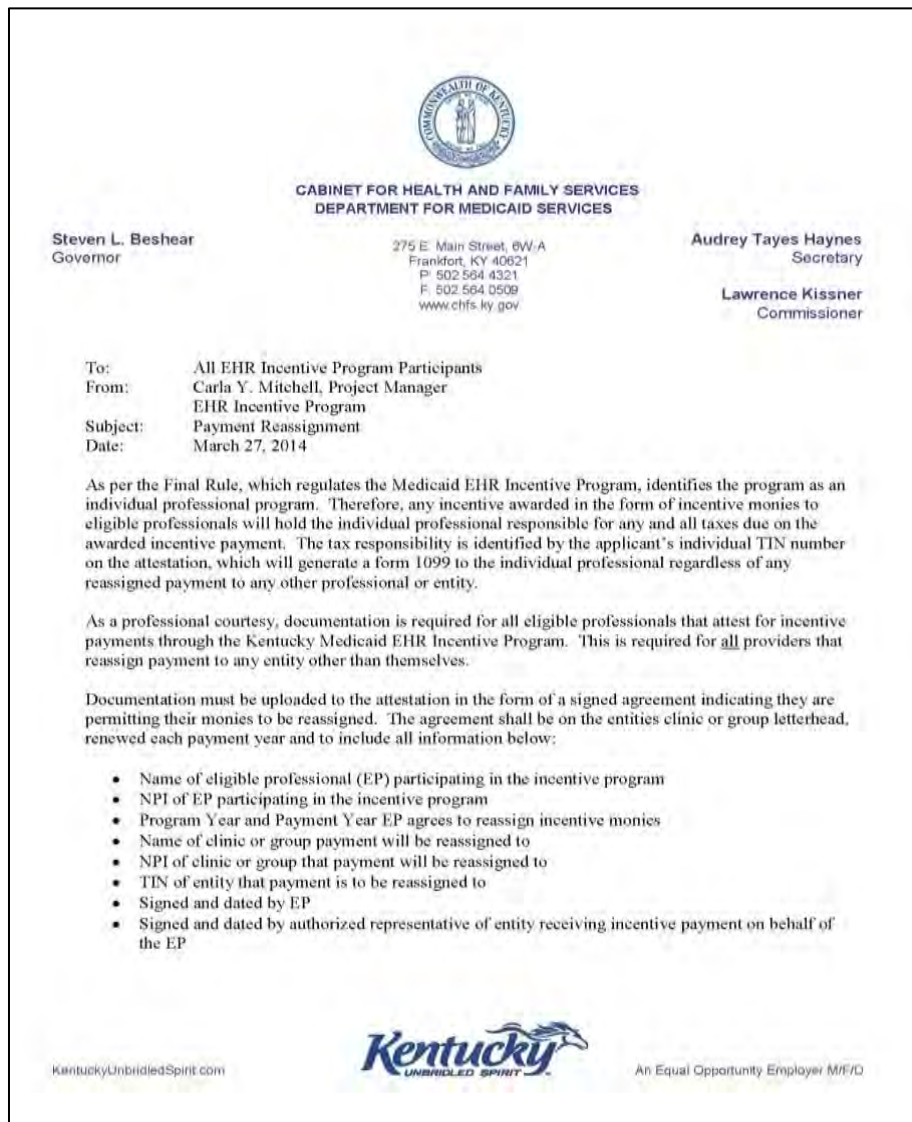


Figure 13: Payment Reassignment Document

## 4.25 Incentive Payments Disbursed Through Medicaid Managed Care Plans at Allowable Capitation Rate

This is not applicable for the Kentucky EHR Incentive Program. DMS does not utilize MCOs to administer EHR incentive payments to Kentucky Medicaid providers. Instead, the DMS Division of Financial Management issues EHR incentive payments to Kentucky Medicaid providers successfully completing the MU attestation process. The DMS Division of Finance does not

administer payment until receiving verification of the successful provider MU attestation by the EHR Incentive Payment Program team.

## **4.26 Hospital Calculations and EP Incentive Payments Made Consistent with Statute and Regulation**

There are no changes in current process. Assure that all hospital calculations and EP payment incentives are consistent with statute and regulation. (Note: EPs are based on calendar year. EHs are based on FFY because of reporting).

- Perform Accounting Functions;
- Manage Payment Information;
- Price Claim/Encounter;
- Manage Recoupment.

## **4.27 Existing Kentucky Partners' Role in EHR Incentive Payment Implementation**

The Commonwealth is augmenting state staff with in-house contractors to facilitate the EHR Incentive Program. State staff is providing oversight of the program. Augmentation staff serves as project managers, developers, architects, business analysts and other IT support staff.

## **4.28 Kentucky Assumptions**

Kentucky will assume the following will be complete:

- CMS will ensure that appropriate CEHRT testing is complete by EHR vendors through the ONC;
- Clear and concise guidance will be provided by CMS;
- Appropriate documentation will be provided by CMS in a timely manner to Kentucky;
- Any system changes made to the state level repository will be communicated in a timely manner to Kentucky and provided the appropriate documentation to support these changes;
- Access to a national level repository and access to individual attestations will be made available;
- Enhanced outreach provided by the Regional Extension Centers with continued support through the SMA;
- Creation of a national provider directory;
- Definition of meaningful use objectives that leverage the state Health Information Exchanges.

## **5.0 OVERVIEW OF KENTUCKY'S AUDIT STRATEGY**

### **5.1 Kentucky Methods to Identify Suspected Fraud and Abuse**

CHFS will prevent/identify suspected fraud and abuse through data analysis and selected provider audits conducted by the Office of the Inspector General (OIG) Division of Audits and Investigations (A&I) and Program Integrity (PI). The information below provides a high-level overview of the Audit Strategy DMS employs for the Kentucky EHR Incentive Program. The full Audit Strategy is not included within this SMHP, as the Commonwealth publishes the CMS approved version of the SMHP for public consumption. DMS maintains details of the Audit Strategy in a separate document. The Commonwealth is updating the most recent EHR Incentive Program Audit Strategy approved by CMS on 4/23/2012 to incorporate the CERHT Flexibility Rule and will submit to CMS for review and approval upon completion.

### **5.2 Kentucky Tracking of Total Overpayment Dollar Amounts**

Overpayments will be tracked through existing PI processes. Any Kentucky EHR Incentive Program funds recouped from providers will be identified on the CMS-64 in accordance with normal reporting procedures as well as any specific Kentucky EHR Incentive Program funding reports. Payments will stop if in any given payment year MU is not met.

To track the total dollar amount of overpayments identified as a result of oversight activities, Kentucky will use adjustment codes for overpayments.

### **5.3 Kentucky Actions When Fraud and Abuse is Detected**

Abnormal findings are reported to OIG A&I, which conducts preliminary investigations. At the point they believe fraud exists, a referral is made to the Medicaid Fraud Control Unit (MFCU). Depending on the parties involved, CHFS may also contact appropriate licensing boards and other agencies.

### **5.4 Leverage of Existing Data Sources to Verify Meaningful Use**

The SMA currently leverages existing data sources to verify meaningful use. The SMA uses the participant database mentioned in section 4.0 Kentucky's Administration and Oversight of the EHR Incentive Payment Program, to verify that all providers attesting to meaningful use have signed a participation agreement with the HIE and appropriate addendums, and have established connectivity with the HIE via web-services or Virtual Private Network connections. Because KHIE is the public health authority in the Commonwealth of Kentucky, all public health meaningful use data is routed to the HIE. The SMA has a strong relationship with the KHIE and collaborates regularly to verify meaningful use data.

The HIE is the Public Health Authority in the Commonwealth for MU purposes. Providers must use the HIE to submit messages to the Immunization Registry, Cancer Registry, etc. The SMA

verifies with the HIE the provider has completed all necessary paperwork to establish a KHIE connection to fulfill the public health requirements.

## **5.5 Sampling in the Audit Strategy**

The SLR has been modified in the Audit section to pull a random sampling of providers.

## **5.6 Reduction of Provider Burden and Maintenance of Oversight Process**

CHFS has employed several methods in order to reduce provider burden while maintaining integrity and efficiency of the oversight process. CHFS intends to send a clear and consistent message to providers through its communication strategy and the tools developed for providers to use in the program. CHFS has held meetings with the provider community dedicated to the discussion of the Kentucky EHR Incentive Program to ensure providers have a clear understanding of what is required to participate in the program. CHFS expects this communication with providers will increase providers' understanding of the program, which should in turn decrease abuse and non-compliance with EHR requirements.

## **5.7 Kentucky Program Integrity Operations**

The CHFS PI unit supports the investigation of potential misuse, by providers and clients, of the Medicaid Program and other programs administered by CHFS. PI staff analyzes historical data and develops profiles of health care delivery, and reports those participants or providers whose patterns of care or utilization deviate from established normal patterns of health care delivery.

## **6.0 KENTUCKY HIT ENTERPRISE**

### **6.1 “As-Is” Today and Five-Year “To-Be”**

CMS requires SMAs to perform self-assessments according to the MITA framework and the Seven Conditions and Standards for Enhanced Federal Funding published by CMS. That framework has the following four components:

- Business Architecture;
- Information Architecture;
- Technical Architecture;
- Seven Conditions and Standards for Enhanced Federal Funding.

CHFS and DMS have recently undergone a series of business model and programmatic changes, particularly migration from fee-for-service to managed care, and implementation of the Kentucky Health Benefit Exchange (Kynect). Kynect serves at the new Eligibility and Enrollment system for MAGI Medicaid recipients. The Department currently operates on a MMIS that was

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implemented in 2007 in support of what was then a fee-for-service Medicaid program. The Department has been reorganized since 2007 to facilitate a transformation of the Medicaid Enterprise and seeks to implement new systems and processes that improve interoperability and align with the CMS MITA framework.

While portions of the enterprise that were once high volume are more automated (including claims, Electronic Data Interchange (EDI) and commercial trading partner exchanges) there are still significant improvements to be made with new automation and interoperability to support the Kentucky Medicaid Enterprise. In addition, the implementation of MCOs in 2010 for the majority of the Medicaid client population has changed the landscape of the Medicaid Enterprise and CHFS seeks to implement solutions and processes that will aid in the management and interoperability of these new business partners.

In response to the challenges of bringing the Medicaid Enterprise to the next level of MITA, CHFS has developed a technological roadmap for the QHI framework. The QHI facilitates the implementation of technology standards and approaches for the development of an interoperable, scalable, and easily adaptable cross-sector technology framework. The QHI is built on a solid foundation of sharable technical services and a common Enterprise Service Bus (ESB) with various applications and is a forward-thinking model for the capability to electronically exchange health information seamlessly across the Medicaid Enterprise. It provides the technology and tools for capturing, analyzing, and reporting performance measures on the quality of service delivery and the health outcomes of Medicaid members, as well as the overall population's health. Through the use of consumer/member portals, the QHI provides tools for improving care.

Communication between systems is difficult, as is aggregation and correlation of data in the enterprise. CHFS has adopted the QHI framework to promote interoperability, reusability, and sharing of information throughout the enterprise as well as across organizational boundaries.

The MITA 3.0 S-SA, completed in December 2014, provided the Kentucky Medicaid Enterprise a Roadmap that reflects the following goals and the means and measures to reach them:

## Web based access to services and business functions that will result in:

- Stakeholders (providers, members, plans, partners, and agency staff) with easy access to information with a user experience that is on par with the best public and private systems through implementation of a Partner Portal to provide self-service enrollment and data management functions;
- Remaining member populations moving to the Kentucky Health Benefit Exchange. This will bring self-service enrollment and data maintenance to members as well as better processes and tools to agency staff.

## Expediting of complete business processes that will involve:

- A workflow engine for tasks that were not previously automated by any system;
- An enterprise modeling for processes and data structures oriented around the MITA business processes;
- A time component Key Performance Indicator (KPI) to each process and in some cases, individual steps within the process.



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Improved business intelligence with the ability to identify trends and to respond expediently with policy and system changes through:

- An increase in the number of data sources available to the analytics process;
- Expanded access to the Decision Support Systems (DSS) and improved coordination among the various CHFS agency DSS systems (Medicaid, KHBE and electronic Management and Administrative Reporting System (eMARS);
- Adoption of a technical architecture that is change friendly for policy execution;
- Adoption of KPI for policy validation;
- Use of an analytics contract to perform outcomes analysis;

Risk reduction in system changes achieved through:

- SOA technology.

Positive health outcomes for Medicaid members through:

- Improvements in contracting for specific outcomes with Managed Care Organizations (MCOs);
- Expanded data contractually required to be submitted by MCOs to include both standard and state specific measures;
- Expanded editing of encounters and the expanded data set.

Figure 14 below is a graphic representation of the Kentucky Medicaid enterprise Roadmap that is a result of the recent MITA 3.0 S-SA.

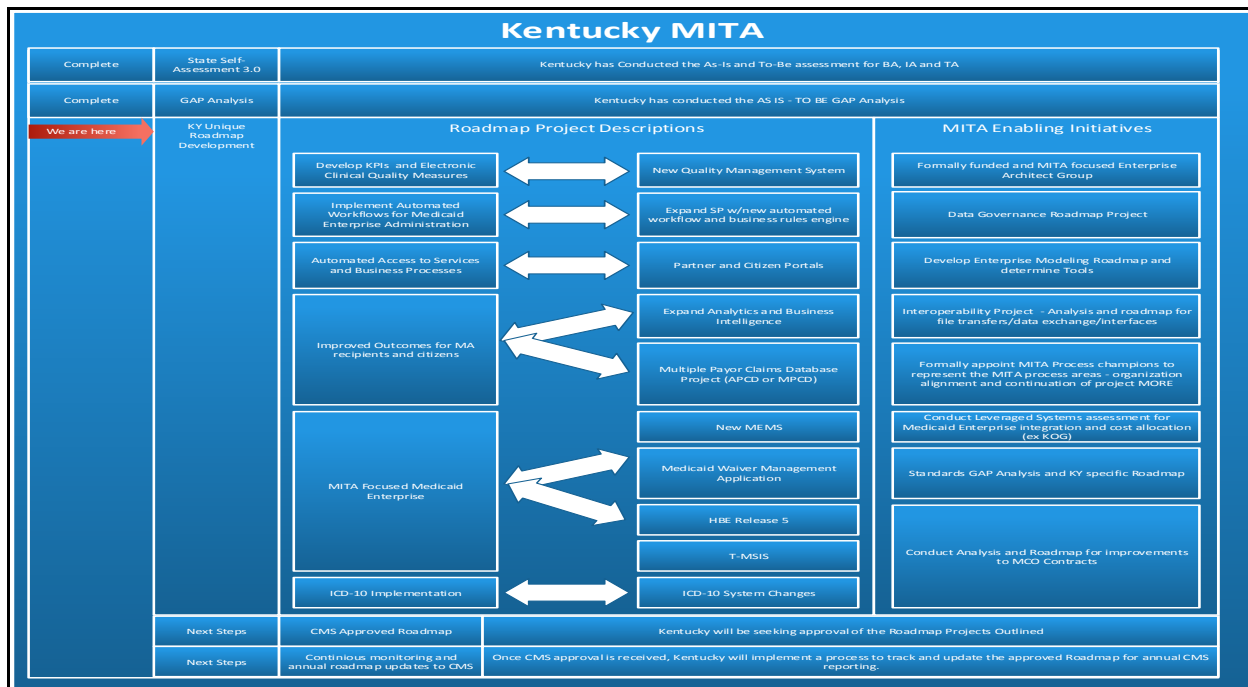


Figure 14: MITA SS-A Roadmap FFY2015 - FFY2020



## **6.2 Kentucky's Expectation for EHR Adoption over Time**

The SMA plans to enhance provider EHR adoption and MU rates annually with a specific focus on reaching rural health providers. Enhancing broadband capabilities in the Commonwealth of Kentucky is an initiative that will help to improve MU and EHR adoption in the Commonwealth.

Current ONC certification standards (including the ability to certify modules) have created an environment where provider types still may not be able to participate in KHIE because their EHR vendor does not support interoperability with HIEs. The expectation is that future ONC certification standards will resolve the interoperability issues that the Commonwealth must deal with today.

## **6.3 Annual Benchmarks for Goals**

The EHR Incentive Program team pays as many program eligible providers as possible. The SMA plans to enhance provider EHR adoption and MU rates annually with a specific focus on reaching rural health providers. Enhancing broadband capabilities in the Commonwealth of Kentucky is an initiative that will help to improve MU and EHR adoption in the Commonwealth.

## **6.4 Annual Benchmarks for Audit and Oversight Activities**

Audits will follow existing CHFS Internal Audit policies for planning, audit supervision, development for audit findings, and work papers. The number of audits and any sampling methodology used will be determined based on the volume of providers receiving Kentucky EHR Incentive Program payments.

## 7.0 APPENDICES

### 7.1 Appendix A: List of Acronyms

The following acronyms are used throughout this document:

Acronym	Definition
ACO	Accountable Care Organization
A&I	Audits and Investigations
A/I/U	Adopt/Implement/Upgrade
ARRA	American Recovery and Reinvestment Act of 2009
CAM	Cost Allocation Methodologies
CCD	Continuity of Care Document
CDC	Centers for Disease Control and Prevention
CEHRT	Certified Electronic Health Record Technology
CHFS	Cabinet for Health and Family Services
CMS	Centers for Medicare & Medicaid Services
CeRT	Consumer Engagement Research Tool
COTS	Commercial Off the Shelf
CQM	Clinical Quality Measures
DMS	Department for Medicaid Services
DPH	Department of Public Health
DSS	Decision Support System
eCQM	electronic Clinical Quality Measures
EDI	Electronic Data Interchange
EH	Eligible Hospital
ELR	Electronic Lab Reporting
EHR	Electronic Health Record
EP	Eligible Provider
ESB	Enterprise Service Bus
FFP	Federal Financial Participation
FFS	Fee-for-Service
FQHC	Federally Qualified Health Center
HIE	Health Information Exchange
HISP	Health Information Service Provider

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Acronym	Definition
HIT	Health Information Technology
HITECH	Health Information Technology for Economic and Clinical Health
HRSA	Health Resources and Services Administration
IAPDU	Implementation Advance Planning Document Update
IHE	Integrating Healthcare Enterprise
IT	Information Technology
KHBE	Kentucky Health Benefit Exchange
KHIE	Kentucky Health Information Exchange
KOHBHIE	Kentucky Office of Health Benefit and Health Information Exchange
KOG	Kentucky Online Gateway
KPCA	Kentucky Primary Care Association
KYIR	Kentucky Immunization Registry
KY REC	University of Kentucky Regional Extension Center
KY SLR	Kentucky State Level Repository
MAR	Management and Administrative Reporting
MFCU	Medicaid Fraud Control Unit
MCI	Master Client Index
MCO	Managed Care Organization
MITA	Medicaid Information Technology Architecture
MMIS	Medicaid Management Information System
MPI	Master Patient/Person Index
MTG	Medicaid Transformation Grant
MU	Meaningful Use
NEDSS	National Electronic Disease Surveillance System
NeHC	National eHealth Collaborative
NeKY RHIO	Northeast Kentucky Regional Health Information Organization
NG KIH	Next Generation Kentucky Information Highway
NKU	Northern Kentucky University
NLR	National Level Repository
NORC	National Opinion Research Center at Chicago
NPI	National Provider Identifier
OIG	Office of the Inspector General

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Acronym	Definition
ONC	Office of the National Coordinator for Health Information Technology
PA	Physician Assistant
PI	Program Integrity
QHI	Quality Health Initiative
QIO	Quality Improvement Organization
REC	Regional Extension Center
RHC	Rural Health Clinic
RHIO	Regional Health Information Organization
SLR	State Level Repository
SAMSHA	Substance Abuse and Mental Health Services Administration
SIM	State Innovation Models
SMA	State Medicaid Agency
SMHP	State Medicaid Health Information Technology Plan
SOA	Service Oriented Architecture
SPA	State Plan Amendment
VA	Veterans Affairs
VAN	Value Added Network
VHR	Virtual Health Record

## **7.2 Appendix B: KY State Level Repository Screenshots for MU Stage 1**

This Addendum documents the KY SLR 2013 system modifications for MU Stages 1. It was submitted to CMS as part of the previous Kentucky SMHP in December 2012. Kentucky received approval from CMS for this submission on January 15, 2013. The Commonwealth maintains this documentation and a copy of this appendix has been submitted to CMS as part of this SMHP update on a CD-ROM due to the large file size, which prohibits electronic submission of the document.

## **7.3 Appendix C: KY State Level Repository Screenshots for MU Stages 1 & 2**

This Addendum documents the KY SLR 2014 system modifications for MU Stages 1 & 2. It was submitted to CMS as an addendum to the previous Kentucky SMHP in December 2013. The Commonwealth maintains this documentation and a copy of this appendix has been submitted to CMS as part of this SMHP update on a CD-ROM due to the large file size, which prohibits electronic submission of the document.

## **7.4 Appendix D: SMHP Certified Electronic Health Record Technology (CEHRT)**

This Addendum documents the KY SLR system modifications the Kentucky made to the SLR in response to the CEHRT Flex Rule. The Commonwealth submitted this Appendix to CMS for review and approval in October 2014 as part of the previous Kentucky SMHP. The Commonwealth submitted a revised copy of this document in response to CMS comments on November 7, 2014 and received approval from CMS on March 5, 2015. The Commonwealth maintains this documentation and a copy of this appendix is available for review upon request.